ournal

of the **AMERICAN PHARMACEUTICAL ASSOCIATION**

JANUARY
1959

Practical Pharmacy Edition

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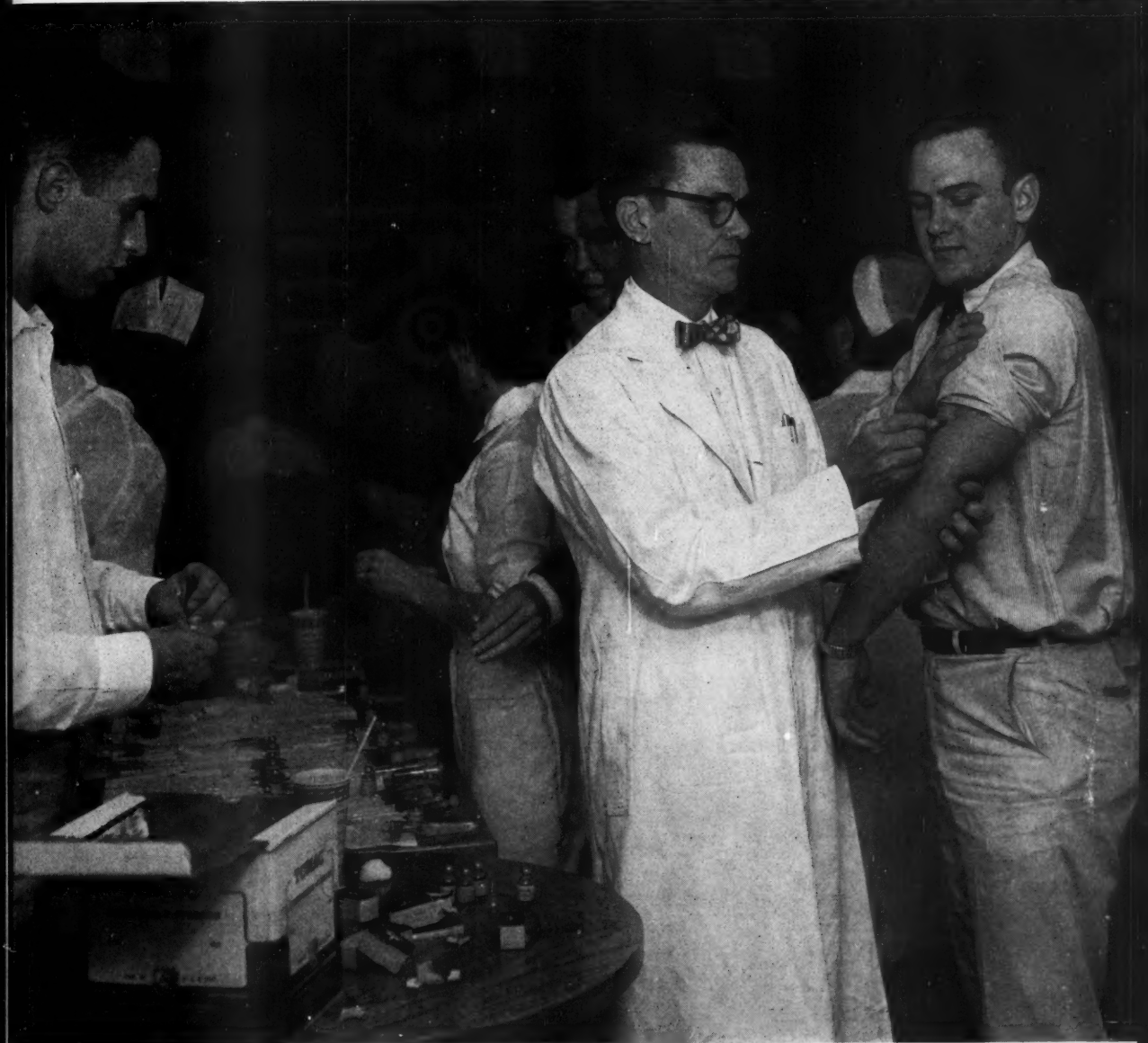

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of the **AMERICAN PHARMACEUTICAL ASSOCIATION**
Practical Pharmacy Edition

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This Journal is the official monthly publication of the AMERICAN PHARMACEUTICAL ASSOCIATION, dedicated to the elevation and unification of the profession of Pharmacy through communication of authoritative scientific, professional, and cultural information. It is devoted to the education of pharmaceutical practitioners, and it functions as the professional voice of Pharmacy, which is directed to all members of the profession of Pharmacy in education, government, industry, and professional practice.

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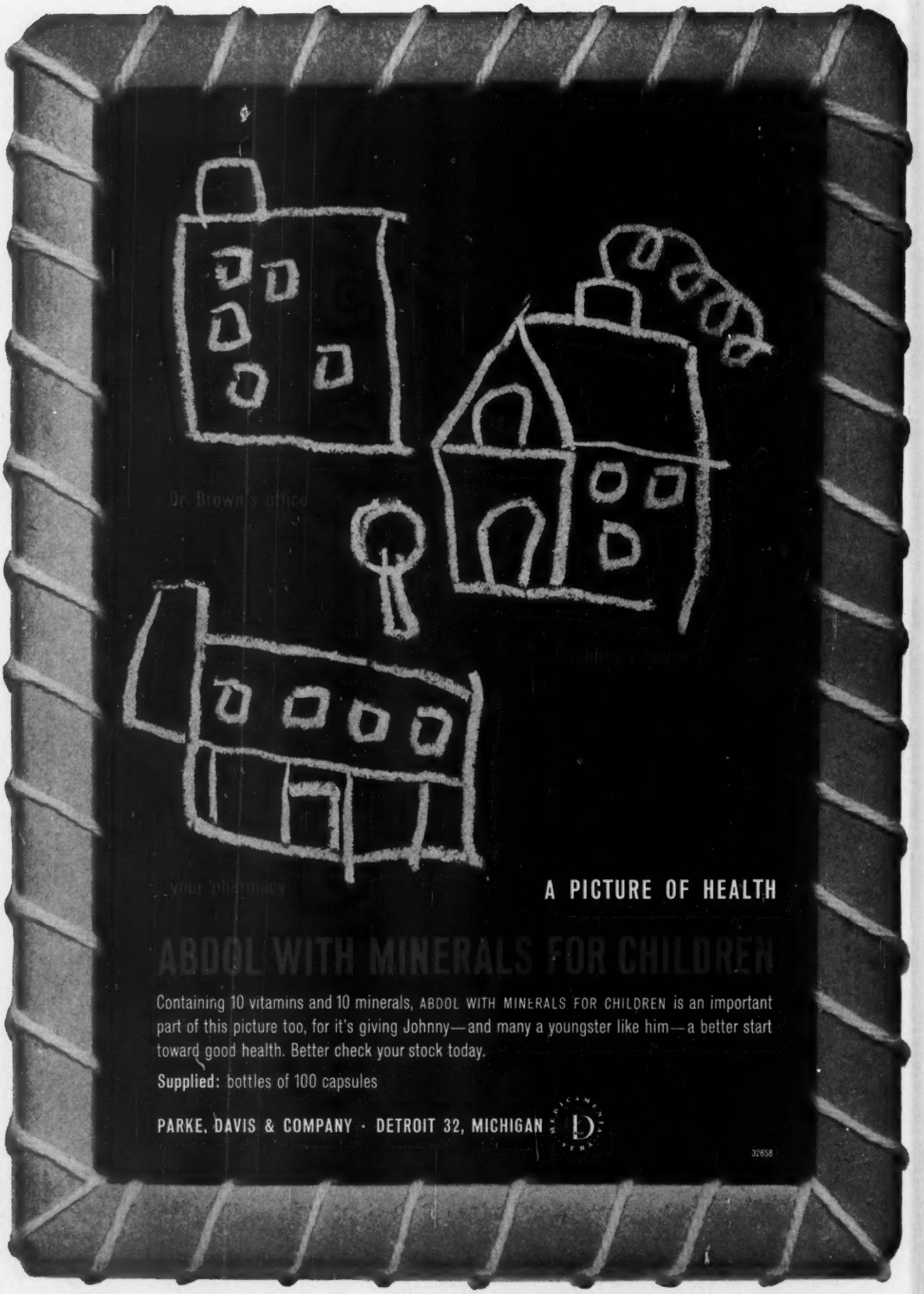
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Federal and local agencies and associations are intensifying their campaigns against the most widespread and expensive form of quackery in this country, namely vitamins, minerals, and other food supplements misrepresented as cures for serious diseases by door-to-door salesmen playing on the layman's fears, which now costs 10,000,000 Americans $500,000,000 a year.

Physicians across the continent need the types of impartial information the pharmacist can supply—the composition, properties, doses, actions, and uses of new pharmaceutical products, as well as objective comparisons between similar products. Prescription volume is multiplying rapidly for those equipped to provide such service.

The ability to communicate via both the written and the spoken word is sadly lacking among vast numbers of highly-trained scientists, including many in the pharmaceutical field.

Issues affecting pharmacists which will be discussed by the U.S. Chamber of Commerce next month include inflation control, tax reform, Federal economy, control of union monopoly power, and Federal intervention in education.

Age, religion, and race, according to recent local and Federal reports, are becoming less frequent causes for discrimination by prospective employers. Some companies actually seek men over 40 because they feel they are more dependable, and attempts are being made to ban the practice of retiring at a specified age.

Mental illness, caused by numerous social, physical, biochemical, and other factors, may be a communicable disease transmissible from one person to another via unhealthy ideas and attitudes.

In mass casualty situations arising from nuclear attack, paramedical personnel, including pharmacists, will have to administer anesthesia, oxygen, and various types of therapy, including sedatives, narcotics, antibiotics, and intravenous fluids, and also undertake simple surgical procedures, clamping and ligating, simple debridement, and other life-saving procedures because the number of physicians and surgeons will be totally unable to cope with the tremendous number of casualties.

The problem of maintaining the health of this Nation on a long-range basis is going to be complicated by the rapidly increasing number of aged persons who will present the general practitioner with his number one problem of the future, urinary tract infections, a large majority of which will be recurring.

Last Minute News

Women's slippers decorated with heads made from cashew nut shells containing the lethal (orange) jequirity beans for eyes have been added to the growing list of novelties against which the Public Health Service has warned because of their toxic effects (Haitian voodoo dolls, beverage "swizzle sticks," necklaces, etc.).

Light-skinned sunbathers are more likely to develop skin cancers in high, arid places where strong winds and high temperatures prevail for long periods of time.

The only component of cigarette smoke definitely known to cause cancer in man, namely arsenic, has increased in amount 2 to 6 times the last 25 years, according to Drs. R. H. Holland, R. H. Wilson, D. A. Clark, H. C. Lanz, A. R. Acevedo, and Mary Sue McCall of the VA Hospital in Dallas.

The irritant action on the respiratory tract of air pollutants from automobiles, incinerators, oil and chemical plants, and other sources may give rise to conditions favorable to the development of cancer, speakers pointed out at the National Conference on Air Pollution held recently in Washington, D.C.

Cancer authorities urge that teaching on the relationship between smoking and cancer be concentrated on teenagers, not adults.

Tranquilizers are now being used to quiet horses before and during operations and to quiet fish while state fisheries employees transport them from traps in streams to hatcheries.

Because positive ions in the atmosphere increase the incidence of fatigue, dizziness, headache, asthma, sinusitis, mental depression, and other conditions, Westinghouse Electric Corporation has developed a special ultraviolet lamp that develops negative ions in the air.

Millions of Americans are suffering from malnutrition because of low intake of protein even though they may be fat.

The best time to perform surgery on a newborn infant is within the first 3 days of its life, according to Dr. H. William Clatworthy, Jr., of Columbus, Ohio, because the infant is in excellent nutritional state with high levels of hormones and inherited antibodies and is less affected by pain and requires smaller amounts of anesthetic agents.

A return to strict aseptic technique in hospitals and in dressing wounds instead of the current widespread and indiscriminate use of the antibiotics which involve hazards to the patient, including death, has been urged by Dr. Wallace E. Herrell of the Lexington Clinic.

A recently-discovered group of viruses, numbered echo viruses 4, 6, 9, and 16, have been found to cause meningitis characterized by stiff neck, severe headache, sore throat, nausea, vomiting, fever, and general irritability. The highest incident rate occurs among children of 14 or under.

Although 20,000,000 Americans are victims of hypertension, it is still more prevalent in the Orient, according to Dr. Henry Schroeder of Washington University School of Medicine in St. Louis, Mo., who lists the following areas in order of descending frequencies: Beirut, Manila, Hong Kong, Bangkok, Taipei, Bombay, Lucknow, and Agra.

Newborn infants apparently acquire antibiotic-resistant staphylococcus primarily from older infants and not from hospital personnel, according to Dr. Valerie Hurst of the University of California Medical Center in San Francisco.

Men serving on atomic submarines suffer tooth decay twice as fast as other Naval personnel, according to Capt. William R. Stanmeyer, dental research chief at the Navy's Medical Research Laboratory, New London, Conn.

A survey of the more than 1,900 degree-granting institutions in this country indicates that the enrollment for the current period has reached the all-time high of more than 3,258,000, an increase of 6.2% over the previous record in the fall of 1957.

A total of 22,416 disabled veterans of the Korean conflict (43.6% of the total) selected training under the VA program leading to professional, semiprofessional, or managerial positions.

The director of the National Cancer Institute, Dr. John R. Heller, is contemplating a new test of the controversial drug krebiozen which was developed as a cancer cure by Dr. Stevan Durovic and sponsored by Dr. Andrew C. Ivy, although it has been called worthless by the American Medical Association, and the American Cancer Society has refused to evaluate the drug.

Drug addiction, an illness which has many features of an infectious disease because of the urge of those afflicted to make converts, causes men to become sexually impotent and lose their function as males and women to become sterile and unable to have any children.

Over 30,000 high school seniors throughout the U.S. in the public, private, and parochial schools have requested to take the 3-hour Eighteenth Annual Science Talent Search Examination, designed to measure ability to think and reason along scientific lines, during the competition for science scholarship awards totaling $34,250 provided by the Westinghouse Educational Foundation.

In a manufacturing plant where automation replaces people, the resulting mental hazard may be avoided by developing the "team spirit" among the remaining few workers, say French psychiatrists.

The Diners' Club, Inc., the world's largest single billing credit organization, has expanded its credit facilities to the drug and sundries field for the first time by adding 165 Sun Ray Drug Company retail outlets to its 20,000 charge facilities.

Chances of having an accident are lower for persons living in the large cities in the U.S. than for the country as a whole, according to the Metropolitan Life Insurance Company.

Russian mental patients receive tender, loving care, and the hospital staff members seems genuinely dedicated to their jobs, according to Robert H. Klein, mental hospital consultant to the American Psychiatric Association, who recently visited Moscow.

One year of nuclear testing produces sufficient radiation from carbon-14 (half-life 5,600 years and potentially more harmful than any fallout material) to cause a total of 55,000 children with gross physical or mental defects, 170,000 stillbirths and childhood deaths, and 425,000 embryonic and neonatal deaths during the next 10,000 years or so, according to Dr. Linus Pauling of the California Institute of Technology.

A relatively high percentage of persons who believe they have heart disease are neurotics without heart disease who use this condition as a defense against potentially overwhelming anxiety to limit their activities, free them temporarily from pressures of responsibilities, and as a means of getting attention and of controlling family members, according to the AMA *Journal*.

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News and Notes

Associations

Pharmaceutical Advertising Club—*Mrs. Audrey Girard*, drug executive,

has been elected Secretary and a director, the first woman officer in this 500-member organization's 25-year history. A native of Exeter, England, she is a graduate of Central Commercial College of Bristol. During World War II she was British civilian aid to the American General in command of the American Southern Base Section, in England. As advertising manager for J. B. Roerig & Co., which division of Chas Pfizer & Co., Inc., she joined in 1953, she also has the distinction of being the first woman to hold this executive office in the drug industry.

Advertising representatives of almost all of the Eastern drug firms belong to the Pharmaceutical Advertising Club, which meets in New York City and sponsors seminars, lectures, and educational activities for its members.

Pharmaceutical Manufacturers' Association—The 3-day program of the mid-year meeting in New York had as the high spot the presentation of the Association's 1958 Achievement Award to the *Honorable George P. Larrick*, Commissioner of the U.S. Food and Drug Administration.

Presentation of the Award to Commissioner Larrick, on December 9, was made by *Austin Smith, M.D.*, Editor of the *Journal of the American Medical Association*, who cited Mr. Larrick for his long and devoted service to public welfare and his contributions to the public health field. Since 1928 Mr. Larrick has held many important assignments with the FDA and has been the recipient of honorary degrees from Drexel Institute of Technology, Philadelphia College of Pharmacy and Science, and Wittenberg College.

Other features of the program were a report on impressions of the 7,500-mile trip made by *John Strohm*, only American correspondent to travel in Red China with State Department approval; the first showing of the documentary film "Vertical Frontier," made by Winthrop Laboratories in cooperation with the U.S. Air Force, dealing with space medicine; and an address in the form of a prediction for 1959 pharmaceutical prosperity by *Donald B. Woodward*, Chairman of the Finance Committee of Vick Chemical Co.

Phi Delta Chi—*F. Everett Williams*, Statesboro, Georgia, pharmacist, received the Annual Outstanding Georgia Pharmacist Award during the 1958 University of Georgia School of Pharmacy Homecoming celebration. *Dr. O. C. Aderhold*, President of the University, made the presentation in recognition of Mr. Williams' contribution to the pharmaceutical profession, his years of public service, and participation in civic affairs. Since receiving his pharmacy license in 1934, he has served on the Georgia Board of Pharmacy, on the Board of Regents of the Georgia University System, and both as State Representative and Senator.

Pharmaceutical Research Discussion Group met recently in Newark with the Deans and Professors of Pharmacy from 7 universities in the N.Y., N.J., and Pa. area. The objective of this joint meeting was to bring together the industrial pharmacist or pharmaceutical chemist engaged in directing pharmaceutical product development with the college of pharmacy faculty for the purpose of discussing areas of mutual interest, and to determine how greater rapport may be established between the 2 groups. Subjects discussed at the meeting included: (1) opportunities for summer employment in product development which would be available to senior pharmacy students and faculty members; (2) inauguration of special lectures, seminars and/or courses pertaining to industrial pharmacy (product development) which could be presented by the pharmacist in industry; and (3) possibilities of closer liaison in the 2 groups regarding basic research of interest to both.

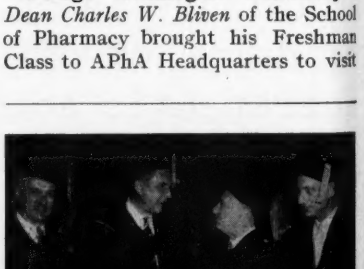
Colleges

Brooklyn College of Pharmacy—Climaxing a 7-day "see college at work" program, the second annual Open House gave over 1,500 visitors a "sneak" preview of the new Laboratories for Therapeutic Research. A special privilege of the tour was a view through observation window of the operation of the radioisotope laboratory, the only one of its kind in a New York State College of Pharmacy.

Formal dedication of the new laboratories took place November 20, with *Major General Dan C. Ogle*, Surgeon General of the U.S. Air Force, the chief speaker. His address stressed solving the urgent problems of radiation effects on the human body as the principal need of our times. Other speakers were *F. J. Braceland, M.D.*, psychiatrist-in-chief, The Institute of Living, Hartford, Conn.; *Austin Smith, M.D.*, Editor of the *Journal of the American Medical Association; Arthur M. Sackler, M.D.*, Director of the new Laboratories for Therapeutic Research; *Arthur G. Zupko, Ph.D.*, Dean of the College and Professor of Pharmacology; and *Dr. Edward Neimeth*, President of the Board of Trustees. The laboratories will be fully staffed by research specialists.

Fordham University—A pharmacy orientation program for high school seniors and their counsellors, intended to give a better understanding of pharmaceutical education and opportunities, was held December 1. Included in the day's activities were talks by *Rev. Charles T. Taylor, S.J.*, Regent of the College of Pharmacy, *Dean Albert J. Sica*, and *Thomas Rauner*, senior student; visits to lectures and laboratories in session; viewing a film "Time for Tomorrow" and demonstrations and exhibits; and an informal period when faculty and students were available for questions. Student members of Rho Chi, the national pharmaceutical honor society, and the AMERICAN PHARMACEUTICAL ASSOCIATION were active program planners and participants.

George Washington University—*Dean Charles W. Bliven* of the School of Pharmacy brought his Freshman Class to APhA Headquarters to visit



***LONG ISLAND UNIVERSITY** honors Nicholas S. Gesoalde, Executive Secretary of the New York State Pharmaceutical Society, with honorary Doctor of Laws degree at 1958 winter convocation. He and Governor Robert B. Meyner of New Jersey were congratulated by Dr. Edward Neimeth (l), President of the Brooklyn College of Pharmacy Board of Trustees, and Dr. Arthur G. Zupko (r), Dean of the Brooklyn College of Pharmacy.*

the American Institute of Pharmacy as part of their orientation course on December 4.

Philadelphia College of Pharmacy and Science—*Dr. Grafton D. Chase,* Associate Professor in Chemistry, presented a very well received paper—"The Application of Radioisotopes in Pharmaceutical Research"—to the Annual Research and Scientific Development Conference of the Proprietary Association December 11 at the Sheraton-McAlpin Hotel, New York City.

Temple University — *Professor Samuel Elkin* brought 75 students, who were on a tour of Washington, D.C., to visit APhA Headquarters on December 11.

University of Maryland—The new Pharmacy Building on the Baltimore Campus of the University of Maryland was named December 4 in honor of *Dr. H. A. B. Dunning,* 1897 graduate of the Maryland College of Pharmacy and former professor in the Department of Pharmacy. *Dr. Noel E. Foss,* Dean of the School of Pharmacy, presided at dedication ceremonies. Present also were *Dr. Wilson H. Elkins,* President of the University of Maryland, the *Hon. Theodore R. McKeldin,* Governor of Maryland, *C. P. McCormick,* Chairman of the Board of Regents of the University, and *Dr. Louis C. Zopf,* President of the American Association of Colleges of Pharmacy.

Dr. Dunning has served as President of the Maryland Pharmaceutical Association, the AMERICAN PHARMACEUTICAL ASSOCIATION, and the American Foundation for Pharmaceutical Education. He took an active part in establishing the American Institute of Pharmacy, Washington, D.C., and the Kelly Memorial Building on the Baltimore Campus. Dr. Dunning holds many academic honors, including the degrees of Doctor of Pharmacy and honorary Doctor of Science from the University of Maryland; Doctor of Laws from The Johns Hopkins University; and Doctor of Science from Washington College. In 1945 he received a citation from Johns Hopkins University President *Isaiah Bowman* for an important contribution to nuclear research.

University of Minnesota—Approval by the Surgeon General of the Public Health service of a Research Facilities Grant of $76,032 to the College of Pharmacy serves to recognize the importance of pharmaceutical research and confirm the high regard held nationally for this College of Pharmacy. The sum will be used to construct and remodel facilities for expansion of their scientific research program in the health field.

University of Tennessee—*Dr. Sheldon Feurt* will assume duties as Dean of the University of Tennessee School of Pharmacy March 1 to succeed *Dr. Karl Goldner,* who is resigning to devote full time to teaching.

Dr. Feurt was born in 1923 at Wichita, Kansas, and received degrees of B.S. from Loyola University of the South at New Orleans and M.S. and Ph.D. from the University of Florida at Gainesville. He taught first as instructor of pharmacy at the University of Florida, then as associate professor of pharmacology and pharmacognosy, 1953–58, at the University of Georgia at Athens. He was made full professor in 1958.

Government

U.S. Army—*Lt. Col. William Lee Austin,* Chief Pharmacy Consultant to the Surgeon General, recently received the Outstanding Achievement Award of the University of Michigan Regents. The citation for Colonel Austin was as follows:

William Lee Austin, B.S., M.A., B.S. Pharm. In 1942, the year after he earned his B.S. degree in Pharmacy, he enlisted in the United States Army, and has served it continuously from that date. Commissioned in the Medical Administrative Corps in 1943, he has become the Army's authority on pharmaceutical matters. His is the large responsibility of evaluating the Army's program of drug selection and utilization. The author of the first Army Medical Service Formulary, he is now embarked upon the gigantic task of developing such a formulary for use by the nations of the world.

Food and Drug Administration—The appointment of *John H. Guill, Jr.,* as Chief of the Chicago District has been announced by Commissioner of Food and Drugs *George P. Larrick.* Mr. Guill replaces *George T. Daughters,* who will be in charge of FDA's Detroit District.

Health, Education, and Welfare—*Dr. Arthur S. Flemming,* Secretary, has held a series of meetings with 250 national organizations whose interests and activities are related to those of HEW. The AMERICAN PHARMACEUTICAL ASSOCIATION was invited to participate. In announcing these conferences, Secretary Fleming noted that voluntary organizations, as well as hundreds of professional groups, share with HEW the common aim of bringing to the American people better health and education (See page 19).

Public Health Service—The appointment of *Dr. Richard A. Prindle* as Chief of the Air Pollution Medical Program of the PHS has been announced by *Surgeon General Leroy E. Burney.*

Increased grant support of training to add to the supply of skilled workers in the mental health field has been reported by *Dr. Robert H. Felix,* Director of PHS's National Institutes of Mental Health. Grants for this fiscal year now total over $16,000,000

OUTSTANDING ACHIEVEMENT AWARD of the University of Michigan Regents being presented to Lt. Col. William L. Austin (r), Pharmacy Consultant to the Army Surgeon General, by the University of Michigan President Harlan Hatcher.

Training emphasis under the new program will be on child development, as well as on physiological and social development in the human personality.

The new building of the National Library of Medicine will be on the grounds of the National Institutes of Health in Bethesda, Maryland. The 85th Congress appropriated $7,000,000 for construction of the building, which is expected to be completed in 1961, the 125th anniversary of the Library's founding.

The Clinical Neuropharmacology Research Center, a project for the study of drugs and their use in the treatment of mental illness, has been opened at Saint Elizabeth's Hospital, Washington, D.C. *Dr. Joel J. Elkes*, National Institute of Mental Health pharmacologist and former chairman of the Department of Experimental Psychiatry at the University of Birmingham, England, is the Director of the Center.

Industry

Abbott Laboratories has opened its new sales headquarters and distribution center at 916 Dakin Street in New Orleans to provide improved service to Medicine and Pharmacy in that rapidly-growing region.

Arner Company—*Dr. Niels C. Klendshoj*, President, has announced the appointment of *Dr. Wilbur McKellin* as Director of Organic Research and *Donald A. Kane* as Senior Industrial Engineer.

Ayerst Laboratories—*Adrian Pinsince* has been appointed Vice President, and *Sterling L. Boyce* has been promoted to the position of Export Manager, according to *W. Boyd O'Connor*, President.

Baxter Laboratories—*James B. Ammon* has been named Assistant to the President, it has been announced by *William B. Graham*, President. A graduate of Amherst College and of Harvard School of Business, Mr. Ammon will act in a liaison role with Baxter divisions in New York and California on internal programs and special projects, Mr. Graham said.

Bristol Laboratories has been awarded a 3-year Government contract expected to total $795,000 for screening agents against mouse tumors, the company announced recently, and it is spending $1,250,000 for a 4-story addition to its Syracuse research facilities for cancer and other pharmaceutical research, Bristol revealed. *Dr. William Bradner*, formerly of the Sloan-Kettering Institute for Cancer Research, has been named by Bristol to head the mouse tumor program.

Cooke-Waite Laboratories—*Vernon W. Rooke, Jr.*, has been elected President of this Sterling Drug, Inc. subsidiary, succeeding *Everett L. Hoskins*, who becomes Chairman of the Board of Cook-Waite.

Endo Laboratories—Drug products of substantial value, including large quantities of Coumadin and Vifort, were recently carried off by burglars. Retail and wholesale druggists have been asked to notify *Maurice A. Deane*, Endo Laboratories, Richmond Hill 18, N.Y. if unauthorized persons should attempt to sell Endo drug products to them.

Cortez F. Enloe, Inc., New York medical advertising agency and consultant to the drug industry, has announced that *Dr. Albert H. (Jerry) Holland, Jr.*, has arranged to purchase a substantial stock interest in the corporation and has been elected Executive Vice President and member of the Board of Directors and will be the Chief Operating Officer of the agency. Dr. Enloe will continue as President and Chairman of the Board and Chief Executive Officer of the firm. Dr. Holland has announced his resignation as Medical Director of the Food and Drug Administration, effective this month.

Geigy Pharmaceuticals has announced the appointment of *Dr. Albert Hemming* as Director of Promotion.

Glenbrook Laboratories Division—Sterling Drug Inc. has announced the appointment of *Seaton Glass*, now Sales Promotion Manager, to the position of Assistant to the Executive Vice President. He is being succeeded as Sales Promotion Manager by *Frank W. Millard*.

Hazleton Laboratories—What the new food additives legislation means to industry was the theme of a conference sponsored by Hazleton and held recently at its Western Division in Palo Alto, Calif. "Concepts and principles behind food and drug legislation have not changed, but have merely been made more inclusive through extension to the food industry," stated *Dr. Ralph Fogleman*, moderator of the conference.

Hoffman-La Roche Inc.—*Raymond D. McMurray* has been appointed to fill the newly-created position of General Counsel, the company has announced.

Ketchum & Company, Inc.—*Howard Thompson* has been appointed as Sales Manager of the Connecticut Wholesale Drug Division, according to *Harold M. Altshul*, President.

Lakeside Laboratories, Inc. is expanding its Pharmacology Division to include 3 new laboratories, *Dr. H. L. Friedman*, Director of Laboratory and Technical Research, has announced.

Eli Lilly and Company—*Irene M. Strieby*, associated with the company's library since 1934, was chosen one of the top career women in Indianapolis and was recently honored by the Indianapolis Chamber of Commerce.

William R. Hutchinson has been named Director of Sales of its East-Central Region, succeeding the late *Walter E. Nelson*, the Company has announced.

William R. Spurlock has been elected by the Board of Directors to the newly-created office of Vice President and Assistant to the President, and succeeding him as Director of Merchandising Operations is *James E. Koffenberger*.

Mallinckrodt Chemical Works—*Edward Mallinckrodt, Jr.*, Chairman of the Board, has announced the election of *John E. Gaston* and *John G. Moore* to the Board of Directors.

McKesson & Robbins, Inc. recently presented a comprehensive Drug Merchandising Conference on the campus of the University of Georgia. Attended by 112 members of the profession, the conference had as special guests senior classes from the University of Georgia School of Pharmacy and the Southern College of Pharmacy. Designed to bring conferees up to date on all phases of retail drug marketing, the program included lectures, movies, slides, and skits.

Robert U. Sternfels has been appointed Manager of the Fresno (Calif.) Drug Division of McKesson & Robbins.

McNeil Laboratories—New appointments to its home plant staff include: *Daniel J. Fennelly, Jr.*, to Manager of the Hospital Sales Department; *Robert E. Johnston* to Assistant to the Treasurer; and *Leslie G. Elmes* to Manager of Public and Professional Relations for the company's activities in the U.S., Canada, Europe, and Latin and South America. Mr. Fennelly, the only pharmacist among the 3, is a graduate of Fordham University.

Merck & Company, Inc. has opened, a new $400,000 branch in Atlanta, Ga., to distribute the pharmaceutical

Continued on page 12

Developed after three years of laboratory investigation . . . proved during one of the most extensive clinical trials ever undertaken in pharmaceutical history . . . here is a major improvement in antihypertensive therapy

Singoserp T.M.

(syrosingopine CIBA)

lowers blood pressure without side effects in most hypertensive patients

Here is the culmination of a search to create a drug that reduces blood pressure safely, **without** creating the side effects problem posed by conventional rauwolfia agents.

Singoserp is the most important new drug from CIBA in the antihypertensive field since Serpasil. An intensive nationwide introduction to the medical profession is now under way.

Singoserp is now available for your order. Contact your wholesaler immediately!

SINGOSERP

Tablets, 1 mg. (white, scored)

	F.T.M.	Trade List Price
Bottles of 100 . . . each	$7.50	$4.50

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News and Notes Continued from page 10

and biological products of Merck Sharp & Dohme Division and the varied products of the Merck Chemical Division.

Norwich Pharmacal Company—*W. Roger Cooper* has been appointed Director of the Export Advertising Division, according to *John Alden* Vice President and Director of Advertising.

Parke, Davis & Company has officially begun operations in its new $765,000 branch office at Menlo Park, California.

S. B. Penick & Company and its New York Quinine & Chemical Works Division moved on January 1 to 100 Church Street, New York 8, N.Y.

A. H. Robins Company, Inc. took top honors in the recent competition of the Fourth Annual Exhibition of Virginia Advertising and Editorial Art and Design sponsored by the Art Directors Club of Richmond. Placing 30 pieces in the showing, Robins won, besides "best of show," two other awards in package design and one for posters.

J. B. Roerig and Company—Entries in the second annual pharmaceutical economics essay contest will be judged by the editors of 5 national pharmaceutical publications, it has been announced. The contest offers $1,500 in cash prizes and is open to junior and senior students in accredited colleges of pharmacy. First, second, and third prizes ($250, $150, and $100) will be awarded to 3 senior and 3 junior class winners. The judges will also decide which of the first place papers gets the additional $500 grand prize, bringing the top award to $750. Rules of the contest may be obtained from Professional Relations Manager *Charles C. Rabe*, J. B. Roerig and Company, 800 Second Avenue, New York 17, N.Y.

Schering Corporation—*Kenneth G. Coolidge* has been named to the newly-created position of Veterinary Sales Training Manager, according to *Roy R. Conner*, Veterinary Marketing Manager.

Smith Kline & French Laboratories—*Patrick P. DeLuca*, pharmacist at SK&F, has been awarded the company's Walter G. Karr Fellowship for post-graduate study, the firm has announced. A graduate of Temple University School of Pharmacy, Mr. DeLuca will study for a doctorate in pharmaceutical chemistry at Temple.

E. R. Squibb & Sons—*Paul Freeman* has been appointed to the newly-created post of Manager of Professional Relations, according to *W. L. Arscott*, Vice President and Director of Sales.

Merck & Company, Inc. and the E. R. Squibb & Sons Division of Olin Mathieson Chemical Corporation have settled long-standing patent litigation between them involving vitamin B-12 concentrates, both companies have announced.

R. J. Strasenburgh Company—*W. Karl Zieroth* has been named Director of Public Relations and Personnel, according to *R. J. Strasenburgh, II*, Executive Vice President.

Tailby-Nason Company, Inc.,—*Thomas Pierce Lewis* has been appointed General Manager of this ethical pharmaceutical manufacturing division of International Latex Corporation. Mr. Lewis was formerly Executive Vice President and member of the Board of Directors of Walker Laboratories. He has had an extensive career in the pharmaceutical industry, including overseas service with Parke, Davis and Company, and held the title of Assistant Export Manager for Chilcott Laboratories, Inc., prior to joining Walker in 1950. He is President-Elect of the Pharmaceutical Advertising Club.

Wallerstein Company, Inc.—*Dr. Robert C. Ottke* has been appointed Director of Commercial Development, the company has announced, and will be responsible for the development of new products and market expansion.

Warner-Lambert and R. J. Reynolds Tobacco Company discussions regarding a possible merger have been amicably terminated. Their joint statement said that "Following several months of study the management of both companies, although having developed a high regard one for the other, concluded, since it did not seem possible to reach agreement on certain important aspects of the proposed transaction, not to proceed further with the discussions...."

Warren-Teed Products Company has announced the appointment of *Dr. Alan R. Wagner* to head the new Pathology Department recently formed.

Whitehall Laboratories has announced the appointment of *Robert V. Nemes* as Manager of Chain Store Sales.

International

Armour Pharmaceutical International—*J. A. Gibernau* has been appointed Director of API, *Dr. Robt A. Hardt*, President of Armour Pharmaceutical Company, has announced, succeeding *S. B. Bradshaw*, who has become a special assistant to Dr. Hardt.

Johnson & Johnson International—*Frank Bor, Jr.*, Controller, was recently elected Chairman of the Drug & Chemical Export Club of the Foreign Credit Interchange Bureau.

Merck Sharp & Dohme International has been authorized by the Government of India to form a large new privately-owned drug manufacturing company in India in conjunction with the Indian concern Tata Sons Private Limited, to be located in the Bombay area, *Dr. Antonie T. Knoppers*, President of Merck Sharp & Dohme International, has announced.

Merck Sharp & Dohme de Mexico S.A. de C.V.—*Efrain Rodriguez* has been appointed President and General Manager of this Mexican subsidiary of Merck & Company, Inc., the parent company has announced.

Parke-Davis, Ltd.—The appointment of *Herbert T. McQuade* to the position of Canadian Branch House Manager has been announced by *C. D. Smith*, Vice President and Managing Director. Mr. Smith said that Mr. McQuade, who has been assistant to the Toronto Branch Manager, will be responsible for internal operations of the 5 Canadian branches and depots and will have his headquarters in Montreal.

Also announced was the establishment, as of January 1, of 2 new Canadian branches, in Vancouver, British Columbia and Winnipeg, Manitoba.

Smith Kline & French Laboratories has announced the establishment of the Smith Kline & French Research Institute of Great Britain, headed by *Professor William A. Bain*, who has held the Chair in Pharmacology at the University of Leeds since 1946.

The Upjohn Company has announced that *J. C. Gauntlett*, Director of Advertising and Assistant Marketing Staff Administrator, has been named Vice President of the firm's International Operations and Manager of its Canadian Pacific Division.

Branch News

Local Branches

Chicago Branch—The feature of the November meeting was a panel discussion entitled "Is Self-Service the Answer?" *Ray Schneider*, *Pat Devereaux*, and *Max Morowitz* led the discussion with *Ralph Tash* serving as moderator. *Edward A. Hartshorn* was elected to fill the vacancy of 3rd Vice President. This branch is participating in a membership drive.

Fresno-Madera County Branch—The November meeting program included a talk by *Dr. Hagel Lambert* on diabetic detection, reports by *Martin Winton* on the Pharmaceutical Institute activities and Old Age Security Program, and *Howard O'Brien* on the local welfare program. *Bill Boone* presented a film on his polar bear hunt in Alaska.

New York Branch—The November meeting, held at Hotel Roosevelt, was devoted to talks by women on "Women in Pharmacy." Speakers were: *Liliana Seibert*, Long Island, on retail pharmacy; *Rosemary Pisannelli*, Lenox Hill Hospital, on hospital pharmacy; *Charlotte Levitch* (formerly of Rutgers) on the advantage of a college of pharmacy education for women; and *Nina Connelly*, Director of Marketing for Ayerst Laboratories.

Student Branches

College of the Pacific—At autumn meetings members heard *Carlo Michelotti* describe a trip to Chicago, which was sponsored by Abbott Laboratories; and *Earl Dillingham* of Bauer & Black discuss uses of elastic dressings.

Duquesne University—"Unions in Pharmacy" was the subject of a discussion, moderated by *Joanne Nicholson*, on the November program. The pros and cons were represented by *Ann DePhillip*, *Peter Cefrick*, *Michael Vasas*, *Robert Landis*, *James Piece*, and *George St. Onge*.

Fordham University—At the first three autumn meetings, 1959 student officers and their new faculty adviser, *Dr. Louis N. Elowe*, were introduced; *Rolland Snyder* of Mead Johnson outlined his company's history and future aims; and an open house, "High School Day," to acquaint high school students of the area with the benefits of the profession of Pharmacy, was co-sponsored with Rho Chi honor society.

PUGET SOUND BRANCH'S Annual Merit Award for 1938 was presented to James L. Bracken of Seattle, Wash. (l) by retiring Pres. Dave J. Irvine at a recent banquet. Dean Jack E. Orr (r) of the College of Pharmacy, Univ. of Wash., was master of ceremonies. Mr. Backen, a graduate of the Univ. of Wash., is active in regional and national pharmaceutical organizations.

Howard College—130 students were welcomed by *Dr. W. R. Byrum*, Director of the Division of Pharmacy, at the beginning of the academic year. He described progress made at the school of pharmacy, particularly their new model pharmacy wherein students may actually practice retail work. *Dr. John E. Wintter*, student faculty adviser, spoke on APhA student membership advantages. *Marlan Fowler*, Student Branch President, introduced his co-officers. *Floyd L. Slay* spoke on the Los Angeles APhA Convention, stressing the importance of student representation on the national level.

At a later meeting *William Zarzaur* of Birmingham spoke on "What Is a Pharmacist?" *Vicky Love*, Chaplain, outlined plans to provide toys for a local children's hospital as a branch project. Appointed to serve on student committees were *Arthur Ellis*, *Charles Gammill*, *Baxter Fortenberry*, and *Fred Hovater*.

Loyola University—*Dr. Edward J. Ireland*, Dean of the College of Pharmacy, spoke on APhA Student Branch history at the first school-year meeting. *Karl Kahn*, *Oliver LeBlank*, and *Ronnie Haydel* have been appointed chairmen of special committees.

Massachusetts College of Pharmacy—Programmed on the November and December meetings was a discussion on Fire Prevention by a Mutual Life Insurance representative and a talk by *William Reed* of Savings Bank Life Insurance Company. *Robert Allen* of Tracerlab, Inc. spoke on "Radioactive Isotopes" on Jan 6. *Richard A. Davidson* has been named to fill the vacancy of Treasurer to replace *Edwin F. Koscielniak*.

Montana State University—Branch President *Edward Harrington* introduced *Dr. Charles Roscoe* as the new faculty adviser, at the first meeting of the school year. Dr. Roscoe talked on the importance of belonging to the APhA, to members and prospective members present.

New England College of Pharmacy—The annual 2-day tour of Sterling-Winthrop Research Institute, at Rensselaer, N.Y., was made by a group of Junior APhA student members, early in November. At a later meeting members participated in a discussion on "Are There Too Many Pharmacies?" with *Leo Brummel*, *John P. DeNicola*, and *William McGowan* on the affirmative side, and on the negative *Donald E. Bloch*, *Sumner Pomerantz*, and *Richard Polikoff*.

Ohio Northern University—The first 3 meetings of the year were devoted to (1) outlining pharmacy courses for freshmen, with *Jerry Hochadel* and *Larry Hiller* presenting a skit "The Ethical Pharmacist"; (2) a talk "Have You Got Salt?" by *William Masur*, of E. R. Squibb & Sons; and (3) 2 speakers—*George Steffy, Jr.*, Metropolitan Life Insurance agent, discussing "Professional Insurance," and *Dr. Ferguson*, faculty member, talking on drug addiction with movie "Chronic Barbiturate Intoxication."

Ohio State University—A debate on radio and television advertising was the feature of the first meeting, with *Drs. W. Arthur Coleman*, and *Arthur Lytle* opposed. *David Stiles* of Abbott Labs. spoke at a later meeting on the growth of the pharmaceutical industry and research amounts spent.

Purdue University—Officers elected for 1958–59 are *John J. Humphrey*, *Alice D. Nelson*, Vice President; *Janet M. Kaffenberg*, Secretary; and *Dzidra Abuls*, Treasurer. *Dean Glenn L. Jenkins* discussed the 5-year

Continued on page 14

pharmacy curriculum at the first meeting of the school year. Guest speaker was *Dr. John Wilms*, psychiatrist of the student health center.

Rutgers University—*Anthony J. Yuskaitis* has been elected President of the Interfraternity Council at Rutgers University College of Pharmacy, where he is a senior. *Dr. Everett Saul*, Director of Scientific Liaison for Bristol Meyers Labs., discussed "Pharmaceutical Organileptics" at a recent meeting.

South Dakota State College—Officers elected for 1958–59 term are *Eugene M. Erickson*, President; *Larry Cartwright*, Vice President; *Martha G. Ostrem*, Secretary; and *James Grosenick*, Treasurer. This Branch reports 100% senior class membership in APhA.

Southern College of Pharmacy—*Dr. Minnie M. Meyer* has been appointed faculty adviser to succeed *Dr. Douglas Johnson.*

Southwestern—*Don Woods*, President of this student branch and Editor of *The Apothecary*, the Pharmacy School's magazine published each semester, has appointed the following to serve on his staff: *Clifford Meece*, Coordinating Editor; *Boyd Jackson* and *Dixie Shears* as Associate Editors; *Leonard Oppdenhoff*, Advertising Manager; and *Dub Denney*, Circulation Manager.

Plans for a dinner dance April 16, 1959 were formulated at the first meeting of the season. *Dr. Howard Mossburg* was the featured speaker of the meeting following, and an all-day pharmacy conference was held November 13 on Animal Health, with vocational agriculture instructors of the 7 surrounding counties attending.

University of Arizona—At the first 2 meetings of the school year, nominations were made for the coming election of officers. *Dr. Mary Caldwell* was guest speaker, and a movie, "The Other City," was shown. Dr. *Delbert L. Secrist* spoke on "The Doctor's Role in Civil Defense," and a movie "The Day Called 'X'" was shown.

University of Buffalo—*Dr. Kenneth J. Ballard* will succeed *Donald B. Clark* as faculty adviser.

Highlight of the first meeting of the season was a panel discussion featuring four local physicians, *Drs. Gerard Schultz, Arthur Cramer, James Tokars*, and *George Echkert*, on the subject "The Physician's Look at Pharmacy."

UNIVERSITY OF OKLAHOMA COLLEGE OF PHARMACY student first to be awarded R. L. Sanford Memorial Pharmacy Scholarship is congratulated by Dr. William S. Apple, Assistant Secretary of the APhA. L to r: Charles Bradley, APhA Student Branch President; Dr. Apple, guest speaker during National Pharmacy Week; Mrs. Roy L. Sanford; Dean Ralph W. Clark of the College of Pharmacy; and Mack Griffin, recipient of the award.

University of Connecticut—*Dr. Ernest Guenther* of Fritzsche Bros. spoke on "Importance of Essential Oils," illustrating his talk with slides and movies, at the November 10 meeting.

University of Florida—*Dr. Thomas D. Malewitz* will succeed *Dr. Joseph H. Kern* as faculty adviser.

University of Georgia—*Dr. Joseph P. LaRocca* succeeds *Dr. S. D. Feurt* as faculty adviser. *Robert Fulford* and *Walter Pope* were elected to serve as representatives at the meeting of the Athens Pharmaceutical Assaciation.

University of Houston—To honor contributors to the Pharmacy Development Fund of the University, an open house and appreciation dinner were given as the first event of the school year. *Charles D. Doerr*, Vice President of McKesson & Robbins, was the principal speaker.

University of Iowa—Meetings of the year began with an all-college mixer. *Dean Louis Zopf* presented scholarships and prizes to those earning them in the previous year.

University of Kansas—*Ed Streit* of Merck Sharp & Dohme spoke on the history of his company at the first meeting of the year. *Cline Dragoo* was appointed permanent program chairman. On November 13, a special meeting was held to present the portrait of *Dean J. A. Reese* of the College of Pharmacy to the school.

Officers elected for 1958–59 are: *Louis D. Bruno*, President; *Robert Dall*, Vice President; *Deanne Crouse*, Secretary; and *Harold Earnest*, Treasurer. *Dr. Robert W. Goettsch* was selected as student branch sponsor.

University of Maryland—*Robert Jones*, TV personality, met with members to discuss "Behind the Scenes in TV," at their first school year meeting, and at their November meeting the Parke, Davis & Company film "Going Our Way?" was presented.

University of Michigan—APhA members report a successful summer campaign resulting in doubling student membership. *James Richards*, Pharmacy Instructor, spoke on "What Makes Women Buy" at the first fall meeting, and in November *Walter Sokol*, Michigan State Police Detective-Sergeant, discussed ilicit use of narcotics and "don't's" for pharmacists. *Donald Tonkin*, *Larry Morgan*, and *Charles Van Aken* have been appointed to Branch committees.

University of Minnesota—*Henry M. Moen*, Executive Secretary of the Minnesota State Pharmaceutical Association, spoke on "Indiscriminate Distribution of Drugs and Medicine" on November 13. *Dr. Taito O. Soine* has been appointed faculty adviser to succeed *Dr. Ole Gisvold.*

University of North Carolina—At the first 2 opening meetings of the school year, students were addressed (1) by *W. D. Welch*, President of the North Carolina Pharmaceutical Association; and (2) by *W. E. Powers*, Secretary of the National Pharmaceutical Council. *Sylvia M. Bonner* has replaced *Sue Ballantine* as Student Branch Secretary.

University of Rhode Island—*Dr. William S. Evans*, of the University of Nottingham, England, who is teaching and doing research work at the University, addressed the APhA Student Branch November 13 on "Pharmacy in England."

University of Wisconsin—At early fall meetings *Dr. Dale Wursten*, Professor of Pharmacy, talked on last summer's International Pharmaceutical Conference at Bucharest, Romania; and *Professor Amin Haddad*, Director of the Faculty of Pharmacy at the American University of Beirut, discussed "Pharmaceutical Education in Lebanon and the Middle East."

University of Wyoming—*Dean David W. O'Day* of the College of Pharmacy introduced faculty members at the first fall meeting, door prizes were awarded, and plans for a Pharmacy senior dance formulated. *Pat Hanson* was elected historian to succeed *John Myers, Jr.*

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they always have

red noses and the sniffles

colds run in their family

When they bring their sore noses and congested heads to you for relief – there's a whole family of reliable vasoconstrictor-decongestive Neo-Synephrine products ready to give them quick and lasting comfort.

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CHECK YOUR STOCKS

Current Comment

Over-the-Counter Promotion

The November 14, 1958 issue of *Printers' Ink* says that an "... agency man points out, 'Not until ethical drug manufacturers can be shown that it will not jeopardize their ethical business and their standing with the physician will advertising of their over-the-counter products directly to the consumer begin.' And it is in this area that ethical-drug ad agencies are looking for added growth."

A Serious Loss

The courts have decided that the sale of medicine should not be restricted to pharmacies as the result of hearings held by the Restrictive Practices Court in London during October.

The chemists (professional pharmacists) used the age-old arguments that their list of drugs restricting the sale of certain items to pharmacies should be continued.

The chemists pointed out that pharmacists can give people advice which cannot be obtained from the grocer or the druggist (dealer in patent medicines). They pointed out that removal of the restrictions and widening the amount of medicine sold by unqualified persons would result in public injury. The pharmacists through familiarity with prescriptions for a given family are in a position to advise persons who wish to purchase slenderizing tablets, stomach powders, and other remedies that might be dangerous for diabetics and other types of patients.

Although they attempted to show that any substantial increase in the amount of patent medicine sold by grocers and in nonprofessional outlets would tip the scales so that people would come to think that medicines are articles that do not need to be bought from the expert, the courts have ruled that drugs may be purchased freely.

One result of the decision has been the inclusion in the British professional journals of advertising emphasizing that the products of certain companies (Parke, Davis; Bradley & Bliss, Ltd.; J. T. Davenport, Ltd.; etc.) will still continue to be supplied only through chemists, because they are the "chemists' friend."

Military Pharmacy

A recent French publication entitled *Roles of the Pharmacist in the Different Echelons of the Medical Corps in the Field* provides detailed information regarding the organization of medical personnel and their duties, including pharmacists It is interesting to compare the following statements translated from the publication with our own Army Regulations:

"The main job of the pharmacist is to ensure, under the Regimental Medical Officer, the resupply of sanitation materials and medicines for the entire regiment.

"But this is not the only job of the Regimental Pharmacist. During quiet periods he is above all a hygienist, charged with the supervision of the quality of the drinking water and the food of the unit, the cleanliness of the body and clothing of the men, the policing of camp sites, in which he may carry out the prescribed methods of combatting infection, insects and rats.

"During operations he becomes the team leader of the stretcher-bearers. At the Regimental Aid Station he will assist the Medical Officer in temporary treatment, to enable the priority evacuation of the most seriously wounded. Likewise, he will assist with urgently needed treatment: changing dressings, applying tourniquets, placing temporary splints on fractures, treating for shock and infection, as well as making out the aid station evacuation tag ..."

Dignity of Work

Under Secretary of Labor James T. O'Connell, addressing the Conference on Education and Employment, Albuquerque, New Mexico, on November 9, said:

"...there are present today in our colleges and universities many young men and women who do not want to be there, or should not be there. Prodded by parents who desire their children to be college graduates, many of these reluctant scholars develop little more than an acute case of boredom. Frequently, all they get from their four years is a white-collar career, doing work for which they are not particularly fitted. Certainly, every youngster who has the intellectual ability and the desire should have an opportunity for a college education, but we should be able to offer a suitable, socially acceptable alternative to those youths whose talents indicate a blending of mental and physical ability. If we are ever to supply the amount of skilled manpower increasing industrial technology is going to demand, we are going to have to rid our thinking of the complex that such employment is some way inferior to white collar work. ...

"It seems to me that the time honored concept of the dignity of work needs reemphasis whether white collar work or blue collar work, unskilled labor or professional endeavor. Time and again, we in the Department of Labor have been asked to help educators and employers to impress students and workers already on the job with this concept. Maybe the current do-it-yourself craze does help some in this respect. After all, when an accomplished physician takes pride in becoming an expert bricklayer or a maker of furniture in his free time, his children and his neighbors learn something about the dignity of work. They cannot think only that the old man is foolish to work all the time."

Pharmacy in World Politics

Moves by Merck have helped forestall the Russians who have offered India a $20,000,000 40-year loan at 2% interest to finance several basic units for a pharmaceutical chemical industry, according to John T. Connor, President of Merck & Company, Inc. He said:

"Every rouble that goes through the Iron Curtain is bound on a political mission. In this case, the mission would be to build a showcase to display Communism as a friend of the sick and disabled."

Mr. Connor pointed out that the Soviet is "at least as well equipped medically as it is economically" to match us in the underdeveloped countries. It already, he said, has 25% more doctors per capita than we and is graduating new ones at the rate of 16,000 a year compared with our 7,000. The Russian doctor, he said, is trained in foreign languages, familiar with relatively crude living and working conditions, and the Kremlin can send him anywhere it likes.

Mr. Connor proposed a bold new foreign medical aid program for the underdeveloped countries and recommended the following 4-point program:

1. *Alert the public to the challenge of Soviet medicine in the underdeveloped countries.* One way to do this would be through a commission of leading experts to find the facts and report them.
2. *Develop a bold new foreign medical aid program of our own.* The Hill-Forgarty Bill for international medical research should be supported and enlarged to include scholarships for foreign medical students who would return to the underdeveloped countries to teach and do research.
3. *Support private organizations that are working in the foreign medical field,* such as Medico, The People-to-People program, World Rehabilitation Fund, World Medical Association, and Columbia's Institute of Nutrition Sciences.
4. *Encourage participation by our pharmaceutical industry.*

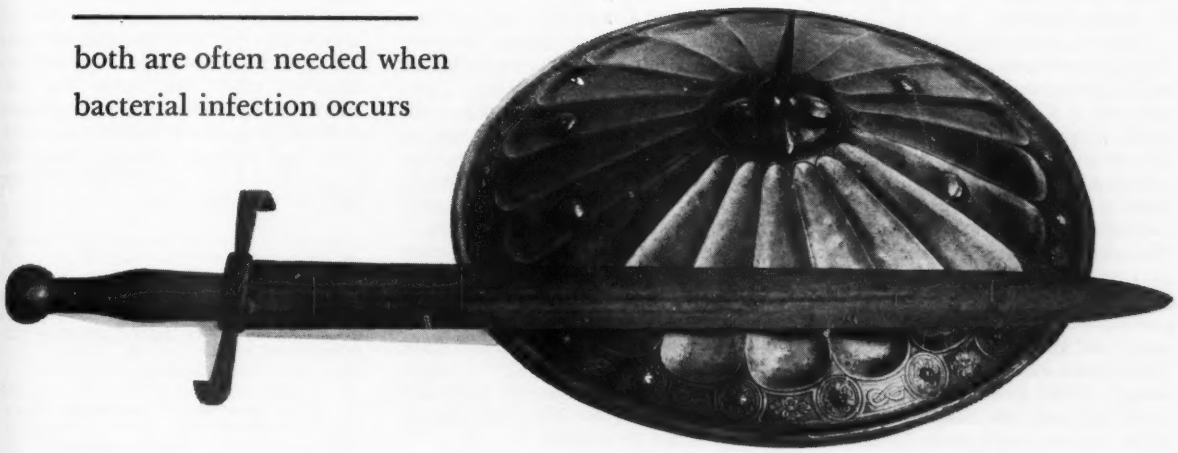
Pharmacy Service in Smaller Hospitals

More than 4,000 hospitals throughout the U.S., with less than 100 beds, should enlist the help of local retail pharmacists to assist in providing medications for their patients, according to Assistant Prof. Alex Berman and John J. Zugich of the University of Michigan.

Zugich, formerly a hospital pharmacist and now Assistant Director at the vast University of Michigan Medical

▮ prompt, aggressive
antibiotic action
▮ a reliable defense against
monilial complications

both are often needed when
bacterial infection occurs



for a direct strike at infection
Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and Endamoeba histolytica).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

It provides unsurpassed initial blood levels – higher and faster than older forms of tetracycline – for the most rapid transport of the antibiotic to the site of infection.

for protection against monilial complications
Mysteclin-V contains Mycostatin

It provides the antifungal antibiotic, first tested and clinically confirmed by Squibb, with specific action against Candida (Monilia) albicans.

It acts to prevent the monilial overgrowth which frequently occurs whenever tetracycline or any other broad spectrum antibiotic is used.

It protects your patient against antibiotic-induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis.

MYSTECLIN-V

Squibb Tetracycline Phosphate Complex (Sumycin) and Nystatin (Mycostatin)

Capsules *(250 mg./250,000 u.), bottles of 16 and 100.* Half-strength Capsules *(125 mg./125,000 u.), bottles of 16 and 100.* Suspension *(125 mg./125,000 u. per 5 cc.) 60 cc. bottles.* Pediatric Drops *(100 mg./100,000 u. per cc.). 10 cc. dropper bottles.*

SQUIBB *Squibb Quality — the Priceless Ingredient*

'MYSTECLIN'®, 'SUMYCIN'®, AND 'MYCOSTATIN'® ARE SQUIBB TRADEMARKS

Current Comment Continued from page 16

Center, and Professor Berman of the College of Pharmacy have just prepared a resource manual for the administrators of smaller hospitals and community pharmacists entitled *Pharmacy Service in Smaller Hospitals.*

The handbook offers for the first time in print an orientation to the pharmacy service problems facing the community hospitals and outlines helpful, working relationships between smaller hospitals and retail pharmacists.

Professor Berman points out that there is a great difference in practices between retail and hospital pharmacy. The retail pharmacist needs special guidance to provide the most complete service for the small hospital. The new manual will help both the administrator and the pharmacist in becoming acquainted with the needs and demands of such a working relationship.

By utilizing all possible resources of the community, the smaller hospital can increase both efficiency and economy in pharmaceutical services for its patients. The U-M College of Pharmacy, therefore, plans to use the handbook in teaching senior pharmacy students who expect to practice in rural or outlying communities. The U-M College of Pharmacy also recommends the manual in the training of hospital pharmacists.

Copies of this well-documented and useful handbook can be obtained by hospital administrators and pharmacists at cost by writing to the University of Michigan College of Pharmacy.

Indispensable Links

Speaking on the topic "Education and Co-operation: Pharmacy's Indispensable Links," Carl K. Raiser, President of the National Pharmaceutical Council, reviewed its contributions at the annual luncheon of the Council in New York City on December 11.

He emphasized that the paramount reason for the existence of NPC is to promote and foster education and co-operation among the various groups of people who play a role in offering to the sick the best possible remedies. Without resorting to publicity, the NPC, he said, holds meetings of appropriate parties, at which a mutual understanding is achieved, and thereby accomplishes far more than popular pressure could.

Since September, 1954 when the NPC was launched, the organization has disseminated widely a number of booklets, including *I Hate to Buy Drugs, but* ... (more than a million copies). *Why All the Mystery in Prescriptions?* (15 million copies), and *Twenty-four Reasons Why ℞ Brand Names Are Important to You.*

Mr. Raiser points out that since the founding of Health News Institute the NPC has been able to withdraw from the "publishing business."

Two major announcements were made by Mr. Raiser during his speech. The first one was to the effect that they are expanding operations to include the area of Pharmacy served by hospitals. He then introduced William E. Woods, whose mission will be to explore the entire field of hospital pharmacy and to further mutual understanding and closer liaison among the NPC, hospital pharmacists, administrators, and physicians.

The second major announcement concerned the fact that NPC will sponsor and conduct a seminar for pharmacy administration faculty members from schools and colleges across the nation. This will be a one-week workshop to be held in August of 1959 at Princeton, N.J. He said, "Through this plan of co-operation between industry and education, it is our fervent hope that the graduating pharmacy student will join the profession with an even better knowledge and understanding of his responsibilities."

Dean Harold G. Hewitt of the University of Connecticut School of Pharmacy, Chairman of the Executive Committee and immediate Past President of the American Association of Colleges of Pharmacy, on behalf of the AACP Executive Committee thanked the NPC for this contribution.

Eli Lilly Receives Remington Medal

Eli Lilly, chairman of the board of Eli Lilly and Company, became the 1958 recipient of the Remington Medal, Pharmacy's highest honor, at the Presentation Dinner tendered by the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION at the Hotel Roosevelt, New York City, on December 10.

Presentation of the Medal was made by Dr. Hugo H. Schaefer, dean emeritus of the Brooklyn College of Pharmacy and himself a Remington Medalist. Other medalists present were: Drs. E. Fullerton Cook (1931), Robert L. Swain (1940), George D. Beal (1941), Robert P. Fischelis (1943), Ernest Little (1949), Patrick Henry Costello (1952), and W. Paul Briggs (1957).

In accepting the honor, Mr. Eli Lilly expressed "heartfelt thanks and appreciation," but added that the credit belonged to many others. Mr. Lilly said his thoughts were summed up in two related quotations. One was an observation of Oliver Wendell Holmes: "Everyone is an omnibus in which his ancestors ride." The other was Dr. Albert Einstein's remark, "Many times a day I realize how much of my own outer and inner life is built upon the labors of my fellow men, both living and dead." Mr. Lilly said:

"I wish it were possible tonight to name all the persons who have cast their lights upon my way that they might be given credit for their share in this Remington Medal....

"Pharmacy today is an omnibus which reflects the ideals and the integrity and the conscientious work of many able men and women who have labored over the years to bring better medicines to the people of the world. Their accomplishments eloquently speak for themselves....

"Let us be ever hopeful that the combined efforts of all will continue to demonstrate propaganda to the contrary, that free enterprise in all areas of the health field will best insure the quality of medical care that the citizens of this great country have come to expect as their natural right."

In a citation to the Medalist delivered by Irving Rubin, immediate past president of the New York Branch, Mr. Lilly was shown to be a "man of numerous and varied accomplishments." Mr. Rubin said:

"In addition to his interest in pharmaceutical manufacturing, Mr. Lilly is a scholar, philanthropist, archaeologist, civic leader, author, farmer, and man of religion. As a result of his 'broad spectrum' activities, Mr. Lilly has been awarded eleven honorary degrees. In addition he was elected honorary president of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1953."

Dr. Ivor Griffith, President and Dean of the Philadelphia College of Pharmacy and Science, saw the recipient, a 1907 alumnus of that institution, standing

"alert on the horizon of achievement leading to the timelessness of progress—progress in health and in welfare.

"The great leaders of the manufacturing pharmaceutical and chemical plants of America have done more for the public health, directly and indirectly, than any other such agency. In the forefront of this distinguished group for the past several decades is our Remington Medalist, Eli Lilly, a pupil of the old master himself, Joseph P. Remington."

Professor Frank Pokorny of Columbia University College of Pharmacy, President of the New York Branch of the APhA, presided at the dinner which was attended by over 500 guests.

$1,500 Essay Contest

Practical answers to economic questions affecting Pharmacy may be worth $100 to $750 to junior and senior students in accredited colleges of pharmacy. J. B. Roerig and Company, Division of Chas. Pfizer & Company, Inc., has announced that $1,500 in cash awards awaits the winning entries in its annual pharmaceutical economics essay contest.

First, second, and third prizes ($250, $150, $100) will be awarded in each of two competition categories, junior and senior. The author of the better of the two first prize essays will receive an additional $500 grand prize. Entries must be submitted before March 1, 1959, and winners' names will be announced about May 1.

Answers to the following and similar questions are needed: How can pharmacists step up professional department profits, cut operating overhead, plan budgets, control delivery expenses?

Rules of the contest are:

1. Junior and senior students enrolled in accredited colleges of pharmacy in the United States are eligible to participate.
2. Essays should be written on current problems in the field of pharmaceutical economics and/or they should deal specifically with practical plans for enhancing the economic status of Pharmacy. Entrants are encouraged to choose their own topics.
3. Manuscripts should not exceed 2,500 words; however, length will not in itself be a factor in determining excellence. Essays will be judged on the basis of literary quality and practicability of recommendations.
4. Manuscripts should be submitted in quadruplicate, typewritten and double-spaced.
5. Only one entry may be submitted by any student. Several students may serve as co-authors of an essay but only one prize will be awarded such an entry if selected as a winner. Manuscripts submitted in previous Roerig-sponsored contests are not eligible.
6. Essays should be clearly identified as to name and address of author, category of competition, and name of college being attended; this information should be placed on a separate sheet of paper attached to the first page of the manuscript. The identifying information is removed when manuscripts are coded and forwarded to the judges.
7. Entries should be mailed to J. B. Roerig and Company, c/o Pharmaceutical Economics Essay Contest, 800 Second Avenue, New York 17, New York. They must be postmarked no later than March 1, 1959, in order to qualify. Receipt of manuscripts will be acknowledged by letter.
8. Prize-winning essays become the property of J. B. Roerig and Company, and the authors agree that these may be submitted for publication in pharmaceutical journals, or used in any other manner; all other manuscripts will be returned to authors on written request. Contestants also agree not to permit publication of manuscripts before the names of winners are announced.
9. The decision of the judges shall be final. Persons employed by J. B. Roerig and Company or any of the other Divisions of Chas. Pfizer & Co., Inc., will not serve as judges.
10. The names of winners will be announced about May 1, 1959. Each contestant will be notified of the results of the contest.

HEW Conferences

A series of precedent-setting meetings were held during December by the U.S. Department of Health, Education, and Welfare in Washington, D.C. For the first time in the history of HEW a comprehensive public relations effort has been made, under the leadership of Secretary Arthur S. Flemming, in an attempt to bring together as completely as possible all the problems encountered by national organizations which reflect into the activities of the numerous areas of his department.

Most important to pharmacists were the meetings held on December 17–18. These were concerned with the production and distribution of foods, drugs, devices, and cosmetics, as well as the health problems confronting the consumer. Those attending from the AMERICAN PHARMACEUTICAL ASSOCIATION were President Louis J. Fischl and Drs. Robert Fischelis, William S. Apple, and Eric W. Martin of the headquarters staff.

A total of some 700 association executives from a galaxy of national organizations attended the various meetings. The feeling of an open door policy and a nonpolitical, cooperative atmosphere was adroitly created by Secretary Flemming and his two associates, Commissioner George P. Larrick and Deputy Commissioner John L. Harvey of the Food and Drug Administration. In general, participation on the part of those attending was kept at a high level.

President Fischl spoke at some length on the question of prescription refills and requested that a study be made of the current provisions of the law governing this activity, in an effort to avoid the destruction of the prerogatives of the pharmacist in the practice of his profession. He pointed out the impracticability and the high cost of having physicians authorize all refills, as well as the inconvenience to the patient and the annoyance to the physician.

Dr. Robert P. Fischelis, APhA Secretary, spoke numerous times during the meetings on various topics. He urged that the procedure for transfer of drugs from legend status to over-the-counter status be clarified and that a more clear-cut dividing line be established by the FDA in connection with the exact point at which a drug may become an *o-t-c* item. He questioned whether there was adequate co-ordination between the FDA and the State health enforcement officers.

Dr. Fischelis made the suggestion that a pharmacist be given a post in the FDA at the policy-making level. He also pointed out that although the FDA was usually associated closely with Pharmacy, the drug field is affected by all the other agencies of HEW: Social Security Administration, Office of Education, Public Health Service, Food and Drug Administration, and Office of Vocational Rehabilitation. He felt that it was essential that the HEW leadership recognize that there must be close integration of all the agencies in the Department as far as Pharmacy was concerned.

The range of topics discussed was extremely broad. Discussions included the areas of funding, personnel, legislation, quackery and HEW policy. The lack of sufficient funds for the FDA to obtain adequate scientific personnel, pay adequate salaries, and properly enforce the food and drug law was emphasized several times.

Also considered were such topics as uniformity of labeling regulations in state laws, creation of a formal training course for food and drug inspectors, nomenclature of drugs for human and animal use, the question of when safety can be stretched to cover efficacy as in quack cancer cures, and the slow rate of new drug application processing.

Dr. Albert H. Holland, Jr., was commended on his conduct of the affairs of his office as Medical Director of the FDA during the past 5 years, and considerable regret was expressed concerning his resignation. A nonpolitical appointment was strongly urged by many of those present, and Secretary Flemming and Commissioner Larrick indicated very clearly that the new appointee would be an up-to-date medical scientist of real stature, familiar with recent research and scientific literature.

It was pointed out several times that multiple jurisdiction (Post Office, Federal Trade Commission, and Food and Drug Administration) in cases involving nefarious operators provides a source of escape for the quacks and charlatans. In this regard it was pointed out that delay in enforcement is profitable for the quacks and in any event penalties are too low to affect the profitable business of quackery to any significant degree.

The need for more research was repeatedly emphasized in a number of fields, including that of cancer where there is an urgent need to develop a good method for determining whether a product is carcinogenic.

Secretary Flemming stated that it was the policy of the Department to release facts to the public as promptly as possible, and he promised that the comments and suggestions made at the various meetings, which had been recorded, would be summarized and published and that the action taken by the HEW on each of these suggestions would be indicated.

Letters

Time for a Movie

Sir:

I quote in part the letter of Dean Lloyd M. Parks as published in the November 1958 Journal. "It has been all too frequently demonstrated that when the public thinks of Pharmacy, it is thinking primarily of retail pharmacy as seen in the home town and, unfortunately, this picture is not sufficiently appealing and motivating to attract the numbers and types of students that we want to get into the profession."

Well NOW! What's wrong with Main Street? There are those that have great love for the Home Town. And what better place for the professional pharmacist to see the fruition of his labor?

It appears to me that retail pharmacy is the Main Stay of the profession considering the percentage of graduates that enter this phase of the business.

Please, Lloyd, what is missing in—"this picture (that) is not sufficiently appealing and motivating—?"

And please, Lloyd, who is "we?"

Hugh H. Foulke
148 No. First Street
Fresno 2, California

Therapeutic Consultants

Sir:

Dr. Biles, in his confused discussion of "Business Ethics" briefly points to my paper "Therapeutic Consultants" to seemingly justify his complaint that "only the financial aspects" of a problem are heard from pharmacists.

Whether he is correct or not in his charge against pharmacists generally I leave to Dr. Biles, but he is certainly incorrect in stating that my views on therapeutic consultants are only financial.

My paper explored the legal aspects, the educational requirements, the breadth and depth of the consultation activity, and how these might affect the structure of retail pharmacy.

Ignatius J. Bellafiore
Assoc. Prof. of Pharmacy
St. John's University
College of Pharmacy

Poison Control Center

Just prior to the release of the Practical Edition of THE JOURNAL for April, I had Dr. Shirkey at our Kentucky workshop to speak on his Poisoning in Children. He had taught me at Cincinnati College of Pharmacy, and I have always admired this man. After listening to him again in Lexington and hearing Dr. Chas. Walton of U. of Ky. College of Pharmacy on setting up a Poison Control Center, the Pharmacists of Campbell County sent me contributions to set up such a Center at our St. Luke's County hospital. The Hospital Board was very receptive to my plan and their hospital pharmacist Paul Vaal and I have now a nice working Center.

Mr. Vaal and I have appeared at four PTA and civic groups using much of Dr. Shirkey's material as text. We have had much favorable comment on this work. There are 4 hospitals in our two-county area and we are now setting up a committee for these two counties. We will encourage the other 3 hospitals to set up treatment centers and we will remain the go-between for the National Clearing House etc. I have enjoyed the public relations project and know we will have more talks in store for us.

Should you get any requests for information on setting up such a Center I would suggest you refer them to the Clearing House as this idea has suddenly mushroomed.

Our North Kentucky Pharmacists Association will be very active in the Diabetic Detection Week again. We have the poster in all pharmacies and the pharmacists will run the tests using tablets supplied by Ames. We make no comment to the person requesting the test, but report number of tests run and the names of the persons and their family doctors' names in positive tests or any doubtful ones. This is the 8th year we have cooperated with the Campbell-Kenton Medical Society. I am enclosing clippings from today's paper which our secretary Mr. Bettinger and I initiated. You might want to use this and/or pass it on to the APhA Public Relations Committee.

John H. Voige, Jr.
906 North Fort Thomas Avenue
Fort Thomas, Kentucky

Editor's Note: See "Poisoning in Children" by Harry C. Shirkey, M.D., page 206, April 1958 issue of THIS JOURNAL.

Dentists' Prescriptions

Sir:

The fact that most dentists write no prescriptions, or very few, has been discussed and deplored in many trade publications these past several months. Here, on a regional level, we the druggists of Central Maine decided to do something about it.

After weeks of organizational effort, we finally decided on December 10th as the date of a meeting, to which 52 dentists, members of the Kennebec Valley Dental Ass'n., were invited as our guests.

The meeting consisted of a Forum, from 2 to 5, with a coffee break at 3:30 a social hour 5 to 6, and dinner at 6:30. The Forum was conducted by Dr. Ronald S. Ping, obtained through the courtesy of Eli Lilly, and Dr. Julius Ozick, obtained through the courtesy of Schering, and they also lectured at the dinner. These are both nationally known men of a very high calibre and we were fortunate in having them.

At the dinner there were also pharmacists of the area, manufacturer's representatives, medical doctors, and City and State officials.

Evariste LaVerdiere
177 Main Street
Waterville, Maine

Labeling Legend Drugs

Sir:

In reference to legend drugs bearing the difficult to locate and read, "Caution: Federal law prohibits dispensing without a prescription," why not replace the warning statement with a large Rx in contrasting color meaning the same. This could be printed in a similar fashion as the present, A, B, X on narcotic products. This system would seem especially applicable to the many new and uncommon products with which the pharmacist may not be completely familiar and should aid in faster and more accurate service, and further preventing the sale of Rx products over the counter.

Richard L. Weiss
B.S. Pharmacy
University of Colorado

Editor's Note: Will readers please comment?

Manual 101

Sir:

I should like to know if it is possible to purchase your APhA manual #101. My druggist suggested that I might be able to get it from you.

I am an R.N. & live out in the country & am very often called by my neighbors when their children eat poisonous material and your booklet does have many of the newer things—i.e., DDT—cleaning fluids, etc.

I should appreciate very much being able to secure this booklet.

Patricia A. Young, R.N.
Box 73, R. D. 1
Gillette, N.J.

Editorial

The Man Behind the Medicines

Believing in what you do is one of the priceless ingredients of a satisfying life which creates enthusiasm and leads to inner contentment. It is encouraging to pharmacists to receive the recognition accorded them by the following editorial appearing in the November 1958 issue of the *Journal of the Medical Society of New Jersey:*

"Recently there came across our desk a neat brochure called *Career Opportunities in Pharmacy.** The brochure spotlighted the challenges in Pharmacy. And it is good that this is done.

"With the advancing front of pharmaceutical therapy, we doctors are becoming more conscious of the man who handles the drugs: the pharmacist. This mid-century is the era of wonder drugs; hormones and antibiotics; isotopes and tranquilizers; steroids and stimulants. From the nadir of nihilism in the 1920's, drug therapy has reached the crest of the cycle. And so there has occurred—or there should occur—a forward shift in the status of the pharmacist.

"It is, perhaps, of some semantic significance, that a retail pharmacist is called a chemist in countries that fly the British flag, while we generally dub his office a drug store. It is as if we were emphasizing the merchandising side of his calling, while the British focused on the scientific aspect. And indeed it is customary for us to sing a requiem on professional Pharmacy, to look back fondly on the good old days when the pharmacist filled his own capsules and made up his own elixirs, tinctures, and pills. The implication is that today's pharmacist simply pours medications from big bottles into little ones. But we need waste no regrets. The old-fashioned pharmacist may have been a quaint figure rolling pills and pounding the mortar with his pestle. But he could not possibly have produced finished products of a consistent degree of viscosity, smoothness, weight, acidity, particle size, or fineness of suspension. Today's pharmacist may not have to work so hard physically. But he now needs professional skill of a higher order.

"Medicine has, of course, made progress in its nonpharmaceutical modalities too. We have better electric shock therapy and psychotherapy for instance; more ingenious surgical operations and manipulations; improved environmental control. But most of the dramatic advances have been in the pharmacologic and related therapies. Our most spectacular gains have been in tuberculosis, syphilis, diphtheria, avitaminoses, and the infections. And practically all the progress here has been achieved through the development of better biologicals and pharmaceuticals. It has always been true of our profession that the main business of Medicine is with medicines.

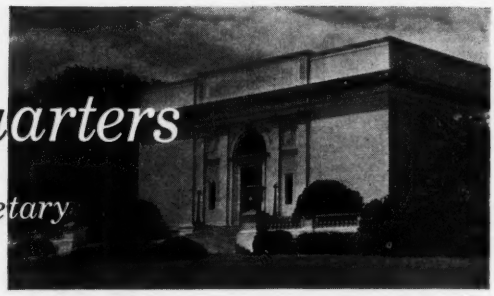
"Pharmacy has, let it be remembered, an honorable heritage—one that takes no back seat to any of the other healing arts. As attested by the mention of poultices in the Bible, pharmaceutical formulae on Babylonian tablets and the numerous drug recipes on Egyptian papyrus, the art is as old as civilization. It is one of the earliest efforts of man to control the harshness of nature.

"We think of the pharmacist as the man behind the screen of a retail store. And indeed 80% of our pharmacists are so placed. But there are pharmacists in hospitals, in Government service, in teaching, in industry, and in research. Indeed, in today's climate—when much of our hope for health lies in pharmaceuticals—there is the potential for exciting and important research in the brain of every pharmacist who has the eye to see it. Even the last sanctum of man, the human mind, is being opened under the hammering impact of a wedge of drugs. Drugs can produce psychoses, and sometimes drugs can heal psychoses. Pharmaceuticals can lull the mind into tranquility or stimulate it into extraordinary energy. Let it be hoped that our fellow-healer, the pharmacist has the initiative, the drive and the imagination to carry into the future his wonderful heritage of the past."

* Copyright 1958 by Chas. Pfizer & Co., Inc. Copies of the brochure are obtainable from Pfizer Laboratories, 630 Flushing Avenue, Brooklyn 6, N.Y.

Straight from Headquarters

Robert P. Fischelis, Secretary



Pharmacy in 1959

The beginning of a new year always provides an opportunity for a survey of what has been completed in the preceding twelve months and speculation or prophecy as to what may be in store in the year to come. Pharmacy and the drug industry can look back on 1958 with some pride of accomplishment. The highlights of these accomplishments have been recorded in the pages of THIS JOURNAL.

There are still with us many unsolved problems and there is good reason to hope that some of these problems will be solved or will at least be on their way to solution during 1959.

Much recent discussion in the drug industry has centered around the anticipated Congressional hearings dealing with costs of medical care, and there is naturally a good deal of speculation as to what effect the actions of the Department of Justice, the Federal Trade Commission, and the various Congressional committees which are delving into the costs of hospitalization, medical services, and drugs may have on Pharmacy.

The public relations departments of individual manufacturers, the Health News Institute, the Health Information Foundation, and the spokesmen for the various national, state and local pharmaceutical organizations, as well as their publications, are alert to the possibilities of the creation of favorable or unfavorable public reactions to the information which may be brought out when the headline-seeking members and committees of the Congress begin to pursue their investigations.

The political situation on the national level is such that both major parties will probably endeavor to establish themselves as being fair-minded, while, of course, taking full advantage of anything that may provide a political issue which will be useful to them.

Under these circumstances, it is highly essential that leadership in the profession and industry be such as to command public respect for its forthrightness and appreciation of the public health and welfare.

Dr. Gunnar Gunderson, president of the American Medical Association, told his members at their recent meeting in Minneapolis that physicians should express leadership and imagination on the international scene. He stated that while the AMA must learn from the past, we must also realize that we cannot turn back the clock. He added that "we need be neither radical nor reactionary in our approach to our problems, but our course should be one of dynamic progress in medicine and in our national life." Pharmacy can accept this as a suggested guideline.

We look forward to 1959 as another year of progress for Pharmacy and we are hopeful that all of the organizations and individuals within the profession and industry will spend some time in informing themselves on the problems of the "other fellow" and working cooperatively for the progress of Pharmacy and our services to the public.

A Good Example

In recent weeks Secretary Arthur Flemming of the Department of Health, Education, and Welfare has been holding informal meetings with many groups of citizens representing the various professions coming in contact with the agencies over which he presides and which include the Public Health Service, the Food and Drug Administration, the Social Security Board, and the Office of Education. (See page 19)

All branches of Pharmacy have been included in the groups which met with the Secretary and there was unusual freedom for discussion of current problems, with the Secretary listening carefully and receiving first-hand information from those who are subject to the Department's administrative actions. The Secretary also received information directly from consumers of health, educational, and welfare services and he heard the answers which his department heads gave to criticisms and suggestions.

At the conclusion of each conference the Secretary invited further comment and suggestions and made those who attended these meetings feel that he is anxious to make up his own mind on important issues coming under his Department. It would be extremely helpful if other government administrators were to follow a similar procedure.

Honorary President G. O. Young

We deeply regret to announce the demise of our honorary president, George O. Young, on December 30. Mr. Young suffered a heart attack while on a trip to Canada last summer. He was able to return to his home at Buckhannon, W.Va., recently and was apparently recovering. He was 85 years of age.

Mr. Young joined the APhA in 1908 and attended most of the annual meetings since that date. He served as secretary of the Commercial Section in 1907–08 and became a life member in 1944. In 1951 he received the Beal Honor Award for outstanding service to Pharmacy in West Virginia.

He graduated from Scio College of Pharmacy in 1896 and was engaged for a time in retail pharmacy in

Cumberland, Md., and from 1902 to 1946 at Buckhannon, W.Va. He was one of the organizers of the West Virginia Pharmaceutical Association and was active in the American Druggists' Insurance Company from its inception. For 12 years he was a member of the West Virginia State Senate and served as Minority Leader during 1941–43 sessions. Mrs. Young died a number of years ago. There were no children. Funeral services were held at Buckhannon on Friday, January 2.

American Hospital Formulary Service

There has been considerable discussion on the Hospital Formulary Service which is to be supplied by the American Society of Hospital Pharmacists, and it is important to recognize of what this service consists.

There has been great demand from individual hospitals for information on drugs which the average hospital pharmacy must stock in order to meet the requirements of its individual staff.

It was considered most efficient to prepare one set of monographs giving all essential information regarding drugs, which would be considered thoroughly authentic, and make these monographs available to all hospitals. The individual hospital would thus be in a position to develop its own Formulary or "Drug List" on the basis of selections made by the Therapeutics Committee of its Hospital Staff.

The American Society of Hospital Pharmacists set up the necessary committee and staff to prepare a comprehensive list of monographs covering practically all important drugs which might be used in the treatment of hospital patients.

These monographs have been compiled with an eye to giving as complete information as possible, including official titles, trade names, and synonyms. The Therapeutics Committee and the hospital pharmacist who generally acts as secretary of this committee, need not, therefore, concern themselves with the authenticity and scope of information made available. Their function in preparing their own Hospital Formulary based on the American Hospital Formulary Service, becomes one of selection of the monographs to be included. By a loose-leaf arrangement, both the American Hospital Formulary Service and the individual hospital formularies can be revised, enlarged, or reduced as drugs for which monographs become available are added to the armamentarium of the prescriber or as they fade into obsolescence.

In the development of standards for pharmacy in hospitals it has been made clear by the American Society of Hospital Pharmacists that there is no effort on its part to cast all pharmacies into the same mold. It is well recognized that each hospital must adjust the extent of its services to the requirements of its clientele.

The medication which a patient receives, be it in private practice, in group practice or in hospitals, depends upon the prescriber. He is the judge of what his patient should receive in the way of drugs. No change may be made ethically or lawfully in dispensing prescriptions, without the consent of the prescriber. This applies throughout the practice of medicine and pharmacy. If the prescriber desires a certain brand of a drug, that is his prerogative and it is the business of the pharmacist to supply that brand. If the prescriber wishes to change the brand of the drug for good and sufficient reasons, that is also his prerogative. Pharmacists would be well advised to keep authentic records of any changes requested or agreed to by the prescriber, if the original prescription is changed in any manner.

We believe that the American Hospital Formulary Service will prove very useful to hospitals, and we have the utmost confidence in those who will make the service available, as well as in those who will make use of the service, that the legal, technical, professional, and proprietary rights of all concerned will be observed.

Pharmacist Helpers

There is a tendency in organizations dealing with medical care, such as the medical departments of the Armed Services, civilian medical centers, and similar groups, to provide limited training for personnel engaged in assisting pharmacists in their professional duties in hospitals and other institutions.

There is no objection to giving nonprofessional personnel working in various phases of medical care an opportunity to obtain a better understanding of the field of service in which they are engaged, provided they are not encouraged to believe that they can acquire in a few months the basic information to prepare them for professional service. When this type of educational activity takes on the aspects of a formalized course of study it has a tendency to dignify subordinate positions far beyond the actual responsibilities carried by those who hold them.

It is unfair to recruit personnel for these subordinate positions with the indication that they may qualify later for some type of professional activity under such titles as "Pharmacy Technician" or "Hospital Pharmacy Technician." From time to time an unusual person starting as a helper in the health care area can work his or her way up and eventually go to college and qualify by meeting the legal and professional requirements in full. Such persons are exceptional and their progress should be encouraged. However, most of those who take on jobs as helpers to professional personnel remain in that category and should not be relied on to take over any professional responsibility no matter how long they continue in this work.

There is no good reason why commissioned pharmacists should not be assigned to the duty of supplying whatever professional pharmaceutical services are required in the Armed Forces.

The report that there is a possibility of reviving the short course for "Pharmacy Technicians" in the Army and Air Force and organizing a special pharmacy course for hospital corpsmen in the Navy is therefore alarming. The same may be said of efforts in certain civilian institutions to offer short courses to prepare personnel for jobs which should be entrusted only to licensed pharmacists.

Every effort should be made to dissuade the Armed Services and civilian health agencies from arranging short courses in pharmacy, because such "courses" and the customary "certificates" give the participant a distorted picture of his competence and may result in irreparable harm to patients.

Industry is waging a cold war on

the common cold

by Nadine E. Miller

The common cold with all its wretchedness and miseries will reach its peak during this month and next. On any given day at least 40,000,000 Americans will be suffering from the sniffles.

Surveys have shown that the average person has three colds a year, and because of this distressing scourge the average employee is absent from work $2\frac{1}{2}$ days annually. Not only is the common cold man's most annoying and frequent disease, but it is also the most costly to the American economy. Actually, the cost to this country has been estimated to be about $5,000,000,000 each year.

While science has been able to tame or defeat some of the worst diseases ever to afflict mankind, the common cold has refused to yield. Until fairly recently two factors have been largely responsible for lack of success: insufficient funds to support an adequate research program, and an apparently insurmountable research roadblock. But, within the past five years both of these have been partially cleared away.

Lack of Funds Overcome

As to the lack of funds, because the common cold was not considered a direct killer or crippler, it did not get as much attention and therefore as much money as did some of the more dramatic diseases. As one article stated recently, " a truly appealing picture of a child with a runny nose has yet to be produced..... crusades are built on pity and terror, not statistics."

However, it was these statistics that caused the Common Cold Foundation, a nonprofit service organization, to be formed.

A group of leading business, banking, and industrial leaders, acutely aware of the increasing cost of the common cold to industry, decided to "roll up their sleeves" and eliminate or control industry's number one health problem. Realizing that a practical solution could come only from scientific research, they formed the Common Cold Foundation to foster this needed research.

The Foundation is supported entirely by industry. Already 171 companies have joined in this effort and as a result projects are being financed at five universities. They are: University of Virginia, University of Kansas, University of Chicago, University of Notre Dame (Lobund Institute), and Cornell University Medical College. Already from these efforts have come some significant progress.

Research Roadblock Removed

As to the research roadblock, this was largely overcome by the Enders-Weller-Robbins technique for cultivating viruses in test tubes. Up until the time of this development there had been complete failure in any attempt to adapt research on the common cold to small inexpensive laboratory animals. This made all such research cumbersome, time-consuming and expensive.

The first cold research was done by Kruse in Germany. Forty-five years ago he published some slender evidence indicating that ordinary coryza might be caused by a filterable virus. Kruse's very small experiment indicated that secretions from a person with acute coryza rendered bacteria-free by filtration, could give rise to a cold when introduced into the nose of a volunteer.

Doctor Thomas G. Ward, Lobund Institute, University of Notre Dame, inoculating Daniel T. Cullen, one of 2,600 Notre Dame student volunteers in test.

The first real sizable investigation of the etiology of the common cold was started in 1924 by Dr. A. R. Dochez and his co-workers at Columbia University.

A systematic study of the role of bacteria as causative agents convinced these investigators that—apart from the hemolytic streptococcus—they were not primary incitants of common respiratory disease. Dochez then proceeded with a study of the virus. He showed conclusively that the common cold could be transmitted by bacteria-free materials.

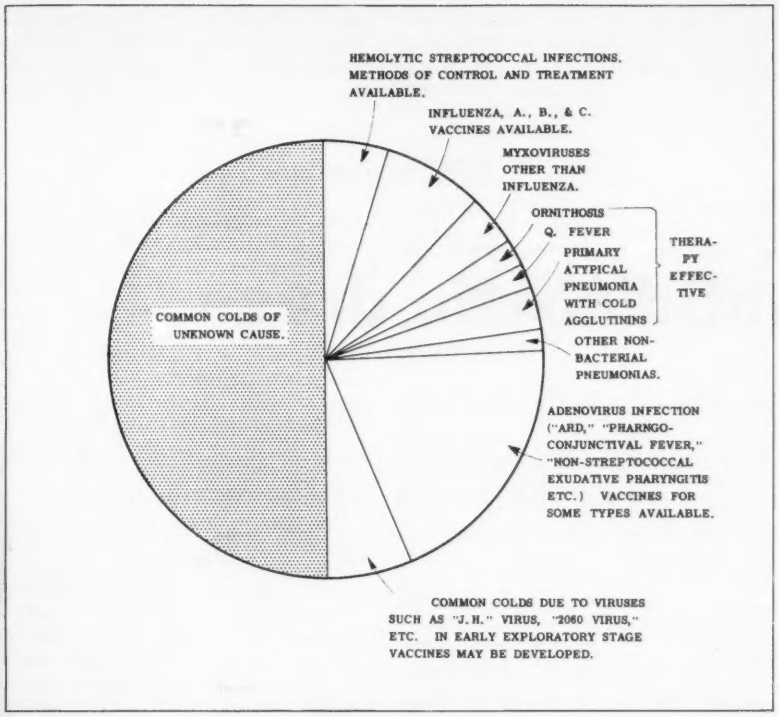
Attempts were made to cultivate the virus using techniques then available. To summarize these experiments it may be stated that while the virus appeared to multiply for a time in artificial media, it tended to die out after prolonged cultivation. Attempts to immunize human beings with these materials were also inconclusive.

In general these were the results obtained by many other investigators. As a result the common cold had yielded comparatively little to the assaults of scientific investigation until the past few years.

Then came this new "roller-tube" technique which made possible the success of the Salk vaccine, and is

Photographs on the front cover and on this page were supplied by the University of Notre Dame.

NADINE E. MILLER, Executive Director, Common Cold Foundation since its establishment in 1954, received her A.B. degree from the University of Kansas. She has done graduate work in education and psychology at the Universities of Wisconsin and Colorado. A former president of the Advertising Women's Club of New York and Chairman of its Committee on Women in Public Relations, Miss Miller is honorary member of numerous journalism and marketing societies.


HEMOLYTIC STREPTOCOCCAL INFECTIONS. METHODS OF CONTROL AND TREATMENT AVAILABLE.
INFLUENZA, A., B., & C. VACCINES AVAILABLE.
MYXOVIRUSES OTHER THAN INFLUENZA.
ORNITHOSIS
Q. FEVER
PRIMARY ATYPICAL PNEUMONIA WITH COLD AGGLUTININS
THERAPY EFFECTIVE
COMMON COLDS OF UNKNOWN CAUSE.
OTHER NON-BACTERIAL PNEUMONIAS.
ADENOVIRUS INFECTION ("ARD," "PHARNGO-CONJUNCTIVAL FEVER," "NON-STREPTOCOCCAL EXUDATIVE PHARYNGITIS ETC.) VACCINES FOR SOME TYPES AVAILABLE.
COMMON COLDS DUE TO VIRUSES SUCH AS "J. H." VIRUS, "2060 VIRUS," ETC. IN EARLY EXPLORATORY STAGE VACCINES MAY BE DEVELOPED.

ACUTE RESPIRATORY DISEASE CHART

seemingly proving equally effective for the study of other virus-caused diseases. In the past 5 years there has been more scientific knowledge acquired in this field than in all previous years of research.

Known Respiratory Viruses and Available Cold Vaccines

Today it is estimated there have been 70 or more viruses isolated which can be found at one time or another in the throats and noses of humans. Many scientists believe these known viruses may be responsible for as many as 50% of man's respiratory infections. Among these new viruses is a group now referred to as the adenoviruses. At least 19 different ones have been discovered, and all of these appear to have some relation to human disease.

Another is "J. H." virus. Isolated by Dr. Winston Price of Johns Hopkins University, it is in no way related to the adenoviruses. A virus, similar to the "J. H." virus, and known as viral agent "2060" was announced by Drs. Pelon and Mogabab of Tulane University.

Four viruses, termed the hemadsorption viruses, have been discovered by researchers at the National Institute of Allergy and Infectious Diseases. It is thought these may account for many of the respiratory ills among children. Others included in this group are certain members of the Coxsackie and Echo group and the cytopathogenic agents discovered by Chanock and associates.

Today there are available vaccines for types 3, 4, and 7 of the adenoviruses. These vaccines have proven highly successful in reducing substantially the occurrence of acute febrile respiratory illnesses in military recruits, but they are not as yet recommended for general uses in adult civilian populations. This is based primarily on the fact that in the limited studies which have been made in nonmilitary groups a very low incidence of adenovirus-caused illness has been found.

Vaccines have been developed and are now in the testing stage for the "J. H." virus and viral agent "2060".

Currently in the testing stage also is the newest attempt with vaccines, a merging of eight. According to Dr. Thomas G. Ward, Professor of Virology, Lobund Institute, Notre Dame University who developed this latest experimental vaccine, it is composed of 8 strains of respiratory viruses which have been isolated since 1953. They are:

1. *Asian Influenza.*—This virus produces in some people the symptoms of a respiratory disease indistinguishable from the common cold. It was included as this virus should cause a reasonable amount of illness this winter.
2. *Adenovirus, Types 3, 4, and 7.*—These viruses produce 5–10% of the mild respiratory diseases in man and were included to enhance the broad antigenic base of the vaccine.
3. *Hemadsorption viruses (HA) Types 1 and 2.*—These agents cause 25–35% of the colds, according to several surveys.
4. *CA (Croup associated).*—This agent apparently produces about 20% of the mild respiratory disease in man and circulating antibody is capable of preventing infection in volunteers.
5. *CCA (Respiratory Syncytial).*—This agent or group of agents produce an unknown quantity of mild respiratory disease. One survey indicates about 10%.

Preparation of Cold Vaccines

These strains were each grown separately in monkey kidney tissue culture. After experimental protocols indicated a large amount of virus present in each pool, the viruses were then killed and the 8 strains of virus were mixed to form the vaccine. The Asian influenza was grown in eggs. The mixture of viruses was retested for safety and the precautions used were the same as those for poliovirus vaccine plus the addendum required for adenovirus. These safety precautions are under the supervision of the Division of Biologics Standards of the National Institutes of Health.

The vaccine is an aqueous one (no adjuvant) and the viruses were killed with formalin. The dose is 1.0 ml. injected subcutaneously in one dose. The vaccine should afford "protection" if it works at all, for about one year.

The Notre Dame Study

Two groups are cooperating in the latest cold vaccine study, 2,600 students of Notre Dame at South Bend, Indiana, and a large group of volunteers from the employees of Southwestern Bell Telephone Company in St. Louis, Missouri.

An added feature of the St. Louis study is that the company has health records on employees dating back several years. These records will be used to check the number of each volunteer's colds after his or her vaccination this winter against the number during the past ten years. Dr. John W. Berry, Medical Director of Southwestern Bell Telephone Co. and Assistant Professor of Medicine, St. Louis University, "hopes to see a 50% to 75% decrease in total respiratory illnesses among vaccinated employees."

However, because of the many factors entering into this study, it is difficult to predict the vaccine's effectiveness. More will be known this next spring when the codes are broken and the results of the experiments are correlated.

The chart entitled "Acute Respiratory Disease Chart," prepared by the Scientific Advisory Committee of the Common Cold Foundation, indicates the present knowledge about acute respiratory disease and its numerous causes. It also stresses the tremendous amount yet to be done. See the chart.

Industry however, is determined to conquer this number one health problem which exacts a toll of at least 150,000,000 work days a year. ■

Sulfonylureas, the new

oral antidiabetic drugs

are eliminating the use of hypodermic needles and syringes for many diabetic patients

DIABETES MELLITUS is a metabolic disorder which was familiar to the Greeks—who named it—but whose cause is still unknown. At its center is a failure by the body to utilize carbohydrates. In many cases, and perhaps in most, this failure is related to a malfunction of the pancreas—a 6-to 8-inch gland nestled in the curve formed by the stomach and the upper part of the small intestine.

The pancreas performs two vital functions—it pours digestive enzymes through ducts into the intestine, and it secretes the hormone insulin, one of the most important regulators of the body's use of sugar. Diabetes results when the pancreas fails to produce enough insulin. In other cases, insulin is probably being produced at the normal or near-normal rate, but is being destroyed in the body by an enzyme called insulinase.

In either case, the sugar which cannot be utilized accumulates in the blood and must be excreted in great quantities in the urine; hence excessive urination and constant thirst are among the major symptoms of the disease. In due course the body, unable to use most of the food it is supplied, begins to attack its own cells for nutrition. Weight loss is rapid at this stage, as is the accumulation in the blood and tissues of toxic waste products called ketone bodies. Extreme ketosis is followed by coma and death.

Most diabetics acquire the disease in middle age. After 40, the risk of developing diabetes is about 30% greater in women than in men. Obesity is a strong predisposing factor in the most common type of the disease, and heredity also appears to be involved. The juvenile diabetic, however, is usually the thin or asthenic type and presents an especially difficult problem in control. About 5% of all diabetics are juveniles. Some specialists suspect that juvenile and adult diabetes are quite separate diseases.

Early Control

Until 1921 only dietary restrictions were available to help the diabetic and these frequently failed; the best that a newly-diagnosed diabetic could hope for was 5 to 10 years more of life, most of them miserable. In that year, however, Dr. Frederick G. Banting and Charles H. Best—the latter only a second-year medical student at the time—isolated insulin from the pancreas of a dog. Daily injections of this hormone now enable almost all diabetics to lead a nearly normal life, though all must watch their diets. Among the many diabetics who led active lives with the help of insulin were Georges Clemenceau, Paul Cezanne, Thomas A. Edison, Fiorello H. LaGuardia, Giacomo Puccini, Hugh Walpole, and H. G. Wells.

Even with the great boon of insulin, the diabetic's life is necessarily complicated by his disease. He must still be careful to avoid excess carbohydrates and fats, while being certain that his diet includes all necessary nutrients. Above all, he must be sure that he gives himself his prescribed amount of insulin—no more, no less—at precisely the proper times each day. Since insulin is a protein which would be digested by the stomach, it must be given by injection, which necessitates carrying a kit containing hypodermic syringe, sterile needles, and insulin itself wherever the diabetic goes. Overdoses of insulin, furthermore, can be extremely dangerous, and the coma which follows, if it occurs in public, may be misinterpreted as drunkenness. For this reason, diabetics are urged to carry cards identifying them as such and indicating what measures are to be taken if they are stricken.

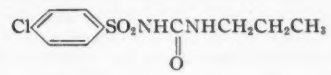
Eliminating the Needle

Almost since the discovery of insulin scientists have been searching for an agent or drug which could be given by mouth (eliminating the needle) and produce the same effect—hypoglycemia, or lowering of the blood sugar. One such drug, called Synthalin (decamethylenediguanidine), was tested as early as 1926, but it proved to be too toxic to be useful.

The first real breakthrough came in 1942, as a consequence of the testing of a new sulfa drug called 2254 RP. The drug, which was being tested against typhoid fever, was a failure; but Dr. Auguste L. Loubatieres, now of the Faculté de Medicine de Montpellier, France, observed that its side effects were insulin-like. Ten years later, as a result of Loubatieres' pioneering studies, the first successful oral hypoglycemic agent, carbutamide, came into limited use; this was followed in 1954 by tolbutamide (Orinase), developed in Germany.

The newest advance in this revolutionary series is Diabinese (see page 7). The technical name for Diabinese is chlorpropamide, and like carbutamide and tolbutamide, it belongs to a class of compounds called sulfonylureas.

Chemically, it is 1-(*p*-chlorobenzenesulfonyl)-3-propylurea, with a molecular weight of 276.76 and an empirical formula of $C_{10}H_{13}O_3N_2SCl$.



These drugs control the most common form of diabetes, particularly in patients who are overweight and have a mild or moderate form of the disease, thus freeing them from the need for daily injections. Doctors are also familiar with a group of diabetics whose disease can be controlled by rigid dietary restrictions alone, but who prefer to use small amounts of insulin for the relative dietary freedom the hormone allows them; almost all of these patients may switch to oral medication. Juvenile diabetics and patients requiring very large daily doses of insulin generally are not helped by the oral drugs, although there are occasional exceptions.

Exactly how the sulfonylureas act in the body is not known; research workers suspect that there may be several mechanisms involved. It is agreed, however, that all these drugs appear to require that the patient's pancreas still be producing insulin on a small (though normally insufficient) scale.

The Potential Mass Tragedy

How many diabetics can be helped by oral therapy? This is a hard question to answer. By projecting public health survey statistical data, it is estimated that 4,750,000 Americans, now well, can be expected to develop diabetes. There are about a million known diabetics in the United States today; a million more are estimated to have active undiagnosed diabetes. New cases are being discovered at the rate of 65,000 each year according to the American Diabetes Association. Through its annual educational drive, the American Diabetes Association keeps up a steady campaign of early detection. The actual size of this potential mass tragedy may be revealed next year, when the U.S. Public Health Service will launch a survey to uncover these latent cases in time to help them. The USPHS believes it may uncover upwards of a million unsuspecting victims of the disease.

Diabinese

The development of chlorpropamide (Diabinese) by Chas. Pfizer & Co., Inc., after more than two years of research at a cost of over a million dollars, makes available to the diabetic and his physician a compound which is apparently two to three times as powerful as any other available oral drug. For this reason, it can be given in very small doses. Many patients can be maintained successfully with as little as 250 mg. a day, and in some cases with 250 mg. every other day. It is often effective where other oral hypoglycemic agents have failed, either initially or after preliminary successes.

Diabinese occasionally produces unwanted side effects, but experience has shown that these are usually a sign that the patient is being given too much of the drug. In general, the very small doses required keep side effects at a minimum. To the patient the most important caution in the use of Diabinese is that, like insulin, it may work too well—that the amount of sugar in the blood may be too greatly reduced. This means that the optimum dose for each individual patient must be carefully established, and that the patient must thoroughly understand the necessity for following his doctor's instructions with diligence. To patients already on insulin, the problem will already be quite familiar.

Diabinese does not appear to be metabolized in the body. Consequently it accumulates in the bloodstream and passes unchanged out of the body in the urine. This raises the interesting possibility that many patients, particularly those with mild forms of the disorder, may be able to take Diabinese on an intermittent schedule, perhaps every 48 or 72 hours. On one schedule or another, it is estimated, more than four-fifths of all adult diabetics can use the drug successfully.

These conclusions emerged from a Conference on Chlorpropamide and Diabetes Mellitus held Sept. 25–27, 1958 in New York, under the joint sponsorship of the New York Academy of Sciences (section of biology) and Pfizer. Reports included 65 clinical and pharmacological papers by scientists from 19 countries, representing the United States, Canada, Mexico, France, Denmark, Scotland, Germany, Austria, Lebanon, Cuba, Chile, Argentina, Peru, Venezuela, the Philippines, Australia, Malaya, Italy, and Portugal. The sessions were summarized by Dr. Charles H. Best, co-discoverer of insulin and now director of the Best Institute in Toronto. He declared:

"We have in chlorpropamide [Diabinese] an effective agent which at the present time appears to be more potent than the two ... oral drugs previously used. Chlorpropamide is longer acting than tolbutamide and can better be given in much smaller doses."

Dr. Best cited in particular a series of animal experiments by Dr. I. Arthur Mirsky of the University of Pittsburgh, establishing the fact that very small doses of tolbutamide can prevent the diabetes produced by overdoses of somatotropin, the growth hormone produced by the body's pituitary or "master" gland. Dr. Mirsky, who discovered the insulin-destroying enzyme insulinase, drew no conclusions from his fundamental study, but his results suggest that oral hypoglycemic agents such as tolbutamide or chlorpropamide (Diabinese) may open a way toward the prevention of the disease—a goal 3,000 years old.

Diabetes may be controlled with diet, insulin, or one of the new oral drugs, but it has never been prevented or cured. Dr. Mirsky's studies began from the known fact that an overdose of somatotropin does produce diabetes in animals. This effect, he told the meeting, can be completely blocked with very small doses of tolbutamide (Orinase).

Rapidly growing children have much higher levels of this hormone in their bodies, from their own pituitary glands, than do adults. Since most juvenile diabetics are of the tall-and-thin, "mushrooming" type, Dr. Mirsky's work hints that the oral hypoglycemic drugs may be used to protect such children against a possible diabetic outcome of their abnormally-rapid growth. (Acromegalics—adults whose pituitary glands are overactive—often are diabetic.) Clinicians at the conference estimated that proving or disproving this hypothesis might take 5 to 10 years of arduous study. Nevertheless, the very possibility is exciting, particularly with reference to juvenile diabetes, by far the most difficult to control and the most tragic of all forms of the disease.

This is a vista which must be viewed with great caution and without exaggerated hope; but it is only one of the many remarkable prospects which have been opened by drugs like Diabinese. ■

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by Melvin W. Green, Ph.D.

Research activity

in colleges of pharmacy

INCREASED RESEARCH ACTIVITY and improved faculty scholarship are evident among the accredited colleges of pharmacy in the United States. At the request of the American Council on Pharmaceutical Education, the Director of Educational Relations was asked to learn in some detail how much research and what kind of reseach is being conducted in these colleges. This was done by circulating a questionnaire to the colleges and by requesting reprints of journal publications for analysis.

The findings of this survey indicate, quantitatively, that much activity is in evidence. The author is well aware of the limitations of a quantitative study, since the real test of research should be qualitative. Only an analysis, paper by paper, by experts in the fields represented could yield reliable information concerning quality and, no doubt, such an analysis would be subjective and not entirely free from bias.

The measures of quality had to be indirect ones such as the confidence of donors as shown by their willingness to support research financially, the known standards of quality demanded by the editors of certain respected scientific and learned journals in selecting papers for publication, and the number of research grants supplied by the institution itself. A careful reading of papers published in current pharmaceutical journals and comparison with their counterparts published a decade or so past indicate greater care in the handling of analytical data and in the preparation and characterization of derivatives, as well as the refinement of data through recognized statistical devices—all evidences of qualitative improvement. The deeper significance of the research is more difficult to assess.

DR. MELVIN W. GREEN, Director of Educational Relations of the American Council on Pharmaceutical Education, is a registered pharmacist in Pennsylvania. He was graduated in pharmacy and also received his Ph.D. degree from the University of Pittsburgh. Dr. Green has been a research fellow at Mellon Institution for Industrial Research and has taught at the Cincinnati College of Pharmacy, Georgetown University Medical College, and the University of Wisconsin. He was Director of the Laboratory of the APhA for 7 years, and he served as Secretary to the Section on Pharmaceutical Education of the 4th Pan American Congress on Pharmacy and Biochemistry. Dr. Green has served on the NF Committee and is a member of the Revision Committee of the USP.

The number of papers published during the academic years 1956–57 and 1957–58 are recorded in Table I. The figures in the column, headed "uncorrected" represent the totals of the figures supplied by the deans. Where reprints were supplied by the colleges, these were assessed to learn the extent of possible duplication of reporting. Such duplication is to be expected because of the high mobility of faculty members. When reprints were available for analysis, only the school wherein the work was actually done or directed was given credit. This permitted a correction for total papers so that as seen in Table I, there were actually no more than 348 different papers rather than the 423 reported by the schools themselves.

As the survey was started in March 1958, the number of papers reported for 1957–58 is low, but this figure is compensated for by the 291 papers reported to be in press. When the total number of papers published is added to the papers in press, the sum approaches 800, a figure compatible with the number of research projects in progress in 1956 as reported by Dr. Palmer of the National Research Council.[1]

The publication of 67 books, booklets, and laboratory manuals and 53 chapters and sections of books is another indication of scholarly activity on the part of faculties even though here, again, there is undoubtedly some duplication in reporting. The granting of 18 U.S. patents during a two-year period is certainly indicative of original thinking and creative activity.

[1] Palmer, Archie M., THIS JOURNAL, **17**, 667 (1956).

Table II shows the number of publications per school. It will be noted that only 7 out of 72 schools reported no publications in 2 years. These seven were matched by an equal number having over 35 papers. The table indicates, also, that about half of the schools reporting published 10 or less papers in 2 years. Since about one-third of the schools of pharmacy have no graduate programs and many of the remainder have only limited programs, it is not surprising that many of the schools publish only an occasional paper. That an occasional paper is published in nongraduate schools is indicative of the seriousness of purpose of many faculty members striving to fulfill their professional obligations.

Where were the papers published? Table III is interesting in this regard for it shows that about one third of the papers were published in nonpharmaceutical Journals. In Table IV are recorded the names of the nonpharmaceutical journals used as a communications medium. Of the journals used, 4 may be classified as chemical, 7 as biological, 15 as medical, 4 as general science, 2 as biochemical, 1 as dental, 2 as veterinary, 7 as technological, 1 as physical, 1 as popular, and 1 as humanitarian in scope. About half of

Table I—Publications Reported
(2 academic years 1956–58)

Total Number of Papers	Uncorrected 423	Corrected,* 348
Pharmacy	120	
Pharm. Chemistry	113	
Pharmacology	89	
Pharmacognosy	30	
Pharm. Administration	16	
Pharm. History	15	
Pharm. Education	47	
Papers in press, 1957–58	291	
Books and laboratory manuals	67	
Chapters and sections of books	53	
Number patents granted staff members	18	

* Corrected for known duplication.

Table II—Number of Publications per School

Number of Papers	Number of Schools
None	7
1–5	26
6–10	12
11–15	9
16–20	2
21–25	4
26–30	1
31–35	4
Over 35	7
	72

Table III—Publication Sources
Based on Reprints

	Number of Journals	Number of Papers
Nonpharmaceutical journals	52	108
Pharmaceutical journals	13	217
Total	65	325

Table IV—Non-Pharmacy Journal Publications (1956–58)

Based on Reprints

Journal	Number of Publications	Number of Schools
Chemical Journals		
J. Am. Chem. Soc.	10	6
J. Chem. Educ.	1	1
J. Org. Chem.	15	8
Anal. Chem.	7	2
Biological Journals		
Am. Midland Naturalist	1	1
Cold Springs Harbor Symposia on Quant. Biol.	1	1
Biol. Bull.	1	1
Canadian J. Botany	1	1
American J. Physiol.	1	1
Economic Botany	2	2
American J. Botany	1	1
Medical Journals		
Geriatrics	1	1
J. Parasitol.	1	1
Arthritis and Rheumatism	1	1
J. Pharmacol. Exptl. Therap.	8	5
Trans. Roy. Soc. Trop. Med. Hyg.	1	1
New Engl. J. Med.	1	1
Proc. Soc. Biology and Medicine	9	7
J. Exptl. Medicine	1	1
American J. Surgery	1	1
J. Nervous and Mental Disease	1	1
Am. J. Medical Sci.	1	1
Archiv. Int. Pharmacodynamie	1	1
Antibiotic Med. & Clin. Therapy	1	1
Clin. Chem.	1	1
J. Pharm. and Pharmacol.	1	1
General Science Journals		
Experentia	2	1
Nature	1	1
Science	2	2
World Science Rev.	1	1
Biochemistry Journals		
Inorganic Nitrogen Metab.	1	1
Canadian J. Biochem. & Physiol.	2	1
Dental Journals		
Oral Surg., Oral Med. & Oral Path.	1	1
Veterinary Journals		
J. Am. Vet. Med. Assoc.	2	2
Poultry Sci.	1	1
Technology Journals		
Food Technol.	2	1
Food Research	1	1
Milk Dealer	1	1
Agric. and Food Chem.	1	1
J. Soc. Cosmetic Chemists	1	1
J. Am. Oil Chemists' Soc.	1	1
Aerosol Age	2	2
Popular Magazines		
American Mercury	1	1
Humanities		
Actes VIII Congress Int. Hist. Sci.	1	1
Physics		
J. Opt. Soc. Am.	1	1
Misc. Journals (7)	12	8

these journals are considered leading and important journals in their field. The members of the profession can be proud of the fact that their teachers are publishing in so many journals and thus obtaining a reputation among their scientific and professional colleagues.

An attempt was made to classify those papers received in reprint form to give some indication of the research interests of the pharmacy faculties. It must be recognized that it is frequently necessary to be arbitrary in such a classification. This is especially true in areas that overlap. In instances more than one subject was covered in the same paper, in which case an attempt was made to credit each subject. Distinctions between phytochemistry and biosynthesis in pharmacognosy are difficult to determine and, perhaps, should not be drawn. When papers dealing with plant products were purely chemical in scope they were classed as phytochemistry papers while such chemical papers which indicated that the work was done to determine part of a pattern of plant metabolism were classed in pharmacognosy, if a drug or a drug plant was involved. The paper by Palmer,[1] previously cited, lists some of the specific topics of research carried on in the schools of pharmacy.

Table V indicates the distribution of papers published, reprints of which were made available. It is of interest to note that about twice as many pharmacology papers were published in non-pharmaceutical journals as were published in pharmaceutical journals. This is explained in part by the fact that pharmacological instruction frequently is given outside of the school of pharmacy by teachers who often are not pharmaceutically oriented. Chemical papers are more nearly evenly distributed between the two types of journals.

In the field of organic chemistry, the preparation and characterization of a "new" organic compound is considered to show evidence of originality. The author scanned the organic papers to determine those compounds prepared apparently for the first time and for which analytical data and physical constants were published. As shown in Table VI, there were over 300 such compounds recorded and their publication was nearly evenly divided between the chemical journals and the journals of the American Pharmaceutical Association.

Many universities have grants available to aid research or they have associated foundations for this purpose. Table VI shows that about a hundred such "internal" grants were in use in schools of pharmacy during each of the past 2 years. Approximately the same number of "outside" grants were available during the same period. The largest number of these outside grants came from industry and it is of interest to note that industries other than the pharmaceutical industry are involved. Foundations were rather generous in their support also, but the Federal Government through the U.S. Public Health Service, the National Institutes of Health, the U.S. Army, the National Research Council, and the National Science Foundation provided the second largest number of grants.

Table V—Types and Number of Papers Published

Fields	Non-Pharmacy Journals	Pharmacy Journals
Pharmacology	43	21
Drug excretion	1	1
Effect on metabolism	3	2
Heart and circulation	4	6
Endocrinology	5	0
CNS depressants	2	1
Carcinolytics	2	0
Antibiotics	4	0
Anticonvulsants	5	2
Ataractics	1	0
Antiseptics	2	0
Antiemetics	0	1
Antacids	0	2
Antipyretics	1	1
Laxatives	0	1
Antihistamines	0	1
Bioassay	1	1
Drug metabolism	5	0
Instrumentation	0	1
Dental pharmacology	2	0
Reviews	1	1
Veterinary pharmacology	4	0
Botany and Pharmacognosy	5	12
Reviews	1	4
Biosynthesis	3	3
History	1	0
Histological	0	3
Miscellaneous	0	2
Physiology	2	0
Bacteriology	1	0
Parasitology	1	0
Biochemistry	3	3
Organic Chemistry	26	21
Synthesis	11	15
Study reaction products	2	0
Natural products isolated	2	0
Reaction mechanisms	3	0
New reaction	4	1
Structure determination	1	0
Phytochemistry	3	5
Analytical Chemistry	7	10
Math. theory	1	0
Reagents	1	1
Indicators	1	0
Chromatography	2	2
Electrometric titrations	1	0
Methodology	0	6
Qualitative	1	1
Physical Chemistry	4	3
Food Chemistry	5	0
Pharmacy	6	116
Reviews	2	6
History	0	7
Stabilization and preservation	1	14
Packaging	0	1
Tablets	0	6
Ointments	0	14
Pharmaceutical microbiology	0	15
Formulation	0	8
Extraction	0	2
Dispensing	0	1
Instrumentation	0	2
Physical pharmacy	0	27
Hospital pharmacy	0	3
Sociologic	1	2
Pharmacy administration	2	8
Education	0	34
Descriptive	0	7
Curriculum	0	6
Course content	0	12
Teaching method	0	4
Graduate	0	4
Continuation education	0	1

Table VI—New Organic Compounds Reported

Journal Type	Number of Compounds
Nonpharmaceutical Journals	144
Non APhA Pharmacy Journals	0
APhA Pharmacy Journals	164
Total	308

Table VII—Research Grants in Schools of Pharmacy

	Number of Grants 1956–57		1957–58	
Grants from own institution		105		112
Outside grants				
Foundations	20		23	
Industry	29		59	
U.S. Public Health Service	8		7	
National Institutes of Health	8		13	
U.S. Army	5		6	
National Research Council	0		1	
National Science Foundation	0		1	
American Cancer Society	1		4	
State Associations	2		3	
Miscellaneous	2		3	
Total outside grants		83		130
Total grants		188		242

Table VIII shows the amount of this external research support to be over $830,000 during 1957–58. In monetary terms the Federal Government was the largest supporter since it contributed nearly $378,000 and industry contributed only slightly more than half this amount. It is heartening to find that private foundations are beginning to appreciate the importance of research in schools of pharmacy.

Table VIII—Value of Research Grants (1957–58) to Colleges of Pharmacy

Source of Grant	Value
Industry	$205,557
Foundations (private)	134,736
Federal Government	
U.S.P.H.S. and N.I.H.	171,368
Armed Services	76,908
Atomic Energy Commission	35,270
National Research Council	5,022
Undisclosed	89,000
State government agencies	9,586
Health associations and foundations	18,662
State associations and miscellaneous	3,350
Unaccounted for	80,805
Total	$830,264

There are now over 400 teachers in the schools of pharmacy holding the Ph.D. degree, several of whom have had post-doctoral research experience in this country and abroad. As a group, these staff members may be characterized as well-trained, relatively young, enthusiastic pharmaceutical scientists eager to strengthen the profession through research. Heavy teaching loads and limited budgets are often the most significant limiting factors. Now that the elements of productive scholarship have been established, it would seem to be time for industry, government, and foundations to support research at a level more in keeping with the other sciences and professions. ■

National Drug Trade Conference

The National Drug Trade Conference (NDTC), meeting in New York for half a day on December 11, concerned itself primarily with governmental interest in the drug industry and the doctrine of implied warranty.

Dr. Robert P. Fischelis, Secretary of the American Pharmaceutical Association, presented his report as Chairman of the NDTC Committee on Uniform Legislation. He referred to the State panel discussions held during the year on "restrictive sales" and the statement on page 662 of the November, 1958 issue of THIS JOURNAL.

The Committee had been authorized at the 1957 meeting of the Conference to develop a list of "over-the-counter" drugs which should be sold only under professional supervision. A complete list of the commonly used prescription and "over-the-counter" drugs had been compiled, and it was now necessary to classify these into legend and nonlegend drugs so that the nonlegend drugs could in turn be classified in accordance with the 1957 recommendation of the Committee. Authority was given by the Conference for the Committee to engage necessary assistance in the accomplishment of this.

As part of the report, a number of questions were raised: Should drugs be restricted for sale only *in pharmacies* or under *professional supervision*, or *by pharmacists*? Should new definitions be developed which properly emphasize the public health implications of professional drug distribution? Should there be a top-level board to determine which drugs should be professionally distributed? Should such a board be appointed by the FDA Commissioner, or the NDTC, or some other group? Who should be called into conferences by this board?

Mr. James F. Hoge, Proprietary Association counsel, indicated that there would be no objection on the part of the PA to an amendment to the Federal F. D. and C. Act placing the matter of retail distribution of drugs under the supervision of the Food and Drug Administration.

Mr. John Horan, speaking on "Government Interest in Our Industry," said:

"... we face today a type of government inquiry which is new to us, both in its size and intensity ... this new attention is the result of our industry's success ... If our industry's research ... had not produced ... a host of ... drugs which have literally created a revolution in medicine, we would probably not be encountering Congressional investigations today ... the probing which we face is due ... to the fact that we have ... failed to communicate to the public and to its representatives in Government these facts on the drug industry."

After enumerating the many investigations, including the polio vaccine trial, hearings held by Representative Fountain's Inter-Governmental Relations Subcommittee of the House Committee on Government Operations, the two-year antibiotic study by the Federal Trade Commission, etc., he said:

"Are these Government investigations something that should concern only pharmaceutical manufacturers?...

"The Fountain Committee investigation of HEW patent policy may at first blush seem further removed from retailers or wholesalers. However, ultimately this patent policy goes to the very heart of the question of whether in the long run a large part of our new drugs will be distributed by wholesalers and retail druggists or by the Federal and State Governments.... our magnificient system of medical care in the United States is a 'seamless web.' One cannot understand it without considering all of its parts and the destruction of any one part will mar the whole....

"All parts of the drug industry, manufacturing and distribution, face the possibility that these investigations and consequent reports in the press, radio, etc., could create in the United States a climate of public resentment against us. This should not happen and will not happen if we take effective steps to present our story to the American people. We must tell them the facts about our industry and its accomplishments....

"We have nothing to fear from an informed public but unless we act promptly and effectively we may see the seeds of our industry's destruction sown in public misinformation and misunderstanding."

Everett I. Willis of the New York Bar and attorney for Eli Lilly and Company presented an excellent summary on "Product Liability without Fault: Some Problems and Proposals," which should be read by everyone interested in this problem. Mr. Willis believes that a limitation of the liability of sellers of drugs could be worked out on principles similar to the limitation to liability found in the law of admiralty. The objective would be to afford a reasonable recovery to injured consumers while at the same time making the seller's risks finite and calculable as a measure designed to maintain an undiminished flow of new products in interstate commerce.

Among amendments passed at the Conference was one that would change *Section 2(b) Delegates* to read:

"Duly appointed representatives of medical or pharmaceutical organizations, not members of the Conference, or other persons may be granted the privilege of attending. The privilege of the floor shall be limited only to delegates."

retirement policies

by Clifton E. Miller, Ph.D.*

THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES[1] conducted a survey in 1956 among its members regarding the retirement practices in effect at that time. Those findings indicated that a majority of state universities retire faculty members at the age of 70. Others have permissive clauses allowing discretionary delays in making retirement effective. In numerous instances, administrators are required to quit office duties for the classroom some years prior to final retirement. Attention was brought out that some institutions foresee an upward trend in retirement age within the next 4 years to make better use of needed manpower. Some schools are giving occasional employment to persons retired from other institutions.

Current information regarding the matter of retirement age was needed at the North Dakota Agricultural College. Each of the several Schools of the College was requested to gather information as applied to its own field and submit their findings to the College Administration.

A total of 76 questionnaires inquiring concerning institutional retirement policies were sent out to the deans of member schools during the summer of 1957. Up to the time of writing this report, replies in part or complete have been received from 65 Schools. The questions, together with a summary of the responses, follow.

1. *Does your institution have a mandatory retirement age?* Sixty-five schools replied, indicating that 57 schools were operating with that regulation; 8 schools reported no such regulation.

2. *What is the specific age of retirement?* Fifty-eight schools answered this question in the following manner:

Age of Retirement	Schools
Optional at age 65	1
Mandatory at age 65	12
Mandatory at age 67	4
Mandatory at age 68	3
Mandatory at age 70	24
Administratively at age 65 and teaching at age 70	12
Administratively at age 65 and teaching at age 68	2

3. *Who is responsible for enforcing the retirement age regulation?* A total of 60 schools answered this question.

Responsible Authority	Schools
College President	36
College Committee	2
State Appointed Board	12
Other Groups, i.e., Trustee Board	10

4. *Are staff members eligible for any retirement plan in effect at your college?* Fifty-six schools replied that their full-time staff members would be eligible for participation.

5. *Are staff members eligible for Social Security benefits?* Fifty-five schools reported that their full-time staff members were eligible to participate in this program.

6. *Do you believe there should be a mandatory retirement age?* Sixty-one schools replied as follows: Yes, 43; No, 18. The schools were then asked to state their preference. The results follow:

Retirement Age	Schools
52	1
60	1
64	1
65	7
67	3
68	4
65/72*	1
70	26

* Retirement from administrative duties at 65, and, health permitting, to continue teaching until 72nd birthday.

The following comments regarding the matter of 70 years as a fitting age for retirement are representative of the replies received.

"We think 70 is a more fitting age. Man's life span has been increased and his health needs are taken care of more efficiently than ever before."

"A faculty member may be re-employed after retiring at 67 on a yearly basis, thus giving the institution an opportunity to use his experience."

"Contracts may be continued if agreeable to the Board of Trustees and to the teaching staff member."

"Our retirement plan is with TIAA and includes a provision that a faculty member, on reaching 65, may, by mutual agreement with the trustees, be continued on the staff on a yearly basis until reaching the age of 70."

"Retirement is at age 65 but not mandatory. Faculty member requests permission to continue teaching."

"A revision of our retirement plan is now being worked out. The proposal is a retirement age of 67 with privilege of continuing to 70 years."

"Compulsory at 65 but may renew teaching contract until age of 70."

"By mutual agreement between the faculty member and the University, the period of employment by the University may be continued beyond the normal retirement date at 65 on a year-to-year basis."

"Elective at 65 years and mandatory at 70." ■

AUTHOR

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* Presented to the Section on Education and Legislation, APhA Los Angeles Convention, April, 1958.

[1] "Retirement Practices of State Universities," D. E. Button, AAUP *Bulletin*, 43, 492 (September, 1957).

by Jack K. Dale, Ph.D.
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effectiveness of preservatives

in commercial ophthalmic preparations

STERILITY IN EYE DROPS remains a problem.[1–38] A tabulation of the many literature references reporting contaminated collyria and their sources is given in Table I.

Commercially prepared ophthalmic solutions and suspensions sold in interstate commerce are subject to rigid sterility controls by the Food and Drug Administration. Unfortunately, although a commercial product may be sterile when purchased, there is always the chance of contamination from the air, by the patient, the physician, or others, once the container is opened.[9,33] This appears especially likely to occur since the present regulations merely specify that the commercial product be initially sterile and if "packed in multiple dose containers should contain one or more suitable and harmless substances that will prevent the growth of microorganisms."[26–28] Riegelman, Vaughan, and Okumoto[33] have pointed out that proprietary ophthalmic preparations contain only bacteriostatic preservatives although "bacteriostatic concentration levels present an inadequate margin of safety when the ophthalmic solution is used by the physician in his office, emergency treatment room, clinic, surgery, or hospital ward." Because it is true that such agents may be too slow acting or may be present in amounts inadequate to handle gross contamination in the periods between use, a study of the sterility picture of commercial products seems indicated.

Since millions of packages of sterile ophthalmic suspensions of adrenal cortical hormones are currently sold every year, this field seemed a good place to start. One of the earliest reports of a contaminated commercial collyrium dealt with a contaminated cortisone suspension,[12,13] hence we began our work with this type product and gradually extended it to the more modern dosage forms containing hydrocortisone and delta-1 hydrocortisone (prednisolone).

Hormone suspension products are especially difficult to sterilize for the suspensions obviously cannot be filter-sterilized without removing the hormone. Furthermore, sterilization by pasteurization, autoclaving, etc., tends to produce clumping or cause crystal growth of suspended particles. For these reasons such products are usually prepared by aseptically combining sterile components and carefully filling into sterile containers. Samples of the finished product are then suitably checked for sterility. This procedure is obviously practical only on a large scale.

Many of the hormone suspensions now available contain antibiotics, sulfonamides, and other materials which may be very effective as "self-sterilizing" preservatives, thus it seemed desirable also to compare these with products containing only the standard preservatives. This was done by testing several representative lots of each type for sterility then adding pathogenic organisms and determining the time required for the pathogens to be destroyed. For this test the procedures and organisms suggested several years ago by the American Medical Association Laboratory were used.[23]

Experimental

Sterility test methods of the USP XV were applied to at least two lots of each of the ten commercially produced ophthalmic suspensions tested. Several products which were more available were tested on

* Presented to the Section on Practical Pharmacy. APhA Los Angeles Convention, April 1958.

DR. JACK K. DALE has been a registered pharmacist since 1943. He received his Ph.D. degree from the University of Florida in 1947 for his dissertation on buffered isotonic and preserved ophthalmic solutions. Since then he has been employed in several divisions of The Upjohn Company. Currently he is responsible for the development of Upjohn veterinary pharmaceutical products.

MARY ANN NOOK, bacteriologist, The Upjohn Company, received her A.B. degree in Medical Sciences from the University of Michigan. Mrs. Nook has supervised vaccine production and has been engaged in various phases of antibiotic and product research at The Upjohn Company since 1937. Currently she is working in virology determining antibody production in tissue culture systems.

ARTHUR R. BARBIERS, research bacteriologist, The Upjohn Company, received his B.S. (1950) and M.A. (1951) degrees in Biology from Bowling Green State University. Mr. Barbiers has been employed in the *in vitro* evaluation of antibiotics and combinations of antibiotics and is now with the Department of Veterinary Research of The Upjohn Company.

as many as 50 different lots. In all more than 2,000 separate vials were tested. All proved sterile (see Table II).

The test for preservative effectiveness was carried out by inoculating 5 ml. aliquots of each product with organism suspensions prepared in such a way that a final concentration of 1,000 organisms per milliliter was obtained. Plate counts of surviving organisms were made initially and after 2 and 4 weeks. These were run by diluting aliquots of contaminated collyria or controls with 10, 100, and 1,000 volumes of sterile water with shaking then mixing each of these 1:9 with sterile medium before incubation.

Although this test showed the superiority of certain neomycin-containing products over others in the test, it did not accurately define the self-sterilizing time of any. Accordingly, plate counts were also made at 0, 1, 5, 10, 15, 30, and 60 minutes (plus additional readings as experience indicated were necessary to more definitely pinpoint the bactericidal time). Products inoculated with *Pseudomonas aeruginosa* (ATCC 10145), *Proteus vulgaris* (ATCC 6897) and *Micrococcus pyogenes* var. *aureus* (ATCC 6538) were incubated at 37°C., those with *Bacillus cereus* (ATCC 7064) at 30°C. and those with *Aspergillus niger* (ATCC 10535) at room temperature. N.I.H. medium was used for the bacteria and Sabouraud's agar for the mold. All test organisms had been grown and prepared by the usual laboratory procedures.

At least two plate counts were made after the product first appeared to be sterile in order to insure that the sterility end point had been reached. The dilution and shaking with water and media plus the use of a Quebec colony counter to visualize any transparent colonies should eliminate any possibility that the organisms were still alive although clumped or inhibited by bacteriostatic concentrations of preservatives.[33] This possibility was further checked by transferring representative dilutions of contaminated preparations and controls into fluid thioglycollate medium USP. Since the thioglycollate results paralleled the above tests, we feel the sterilizing times reported here are bactericidal if the USP XV sterility test is valid.

The results are summarized in Table III. The range of times reported gives first the longest time any organisms were found alive, followed by the first time all organisms were found dead (i.e. 1–2 hours mean contaminated at one hour, sterile at two hours). While the actual killing time may be anywhere in this range, it was found that this method of reporting most accurately expressed reproducibility when more than one lot of product was tested.

Discussion of Results

Sterility—All lots of sterile ophthalmic suspensions tested were sterile although more than 2,000 vials representing 126 lots of product were tested (see Table II). This seems to us to indicate that the current methods of manufacture were satisfactory for the 10 products tested as far as initial sterility is concerned. This is supported by the lack of any literature reports of contamination for these products in recent years.

Table I—Contaminated Eye Drops Reported in the Literature

Source or Location	Contaminant Found	Collyria	Remarks	Reference
Pharmacies	Various	1% Atropine Sulf.	10 out of 25 St. Louis pharmacies dispensed contaminated collyria	6
Pharmacy	*E. coli*, Staphylococcus	1% Atropine, 2% Pilocarpine	Collyria dispensed by 2 retail pharmacies contaminated	11
Pharmacy	Staphylococcus	Not specified	Staphylococcal infection traced to collyria	9
Pharmacy	*Ps. aeruginosa*	Fluorescein	2 out of 4 pharmacies dispensed contaminated collyria	24
Hospital Pharmacy	*Ps. aeruginosa*	Fluorescein, Physostigmine	3 products found contaminated	15
Hospital	*Ps. aeruginosa*	Fluorescein, Eserine, etc.	5 out of 18 corneal ulcers traced to eye drop contamination	16
Hospital	*Ps. aeruginosa*	Eserine	3 corneal ulcers traced to contaminated collyria	13
Hospital	*Ps. aeruginosa*	Fluorescein	26 out of 26 hospital collyria contaminated	13
Hospital	Gram-negative rods	Fluorescein	4 out of 4 collyria tested were contaminated	24
Industrial Infirmary	*Ps. aeruginosa*	Fluorescein	1 out of 2 collyria were contaminated	24
Industrial Infirmary	*Ps. aeruginosa*	Fluorescein	4 eyes believed lost due to contaminated collyria	28
Industrial Infirmary	*Ps. aeruginosa*	Silver Proteinate	Contaminated collyria caused loss of sight	20
Industrial Infirmary	*Ps. aeruginosa*	Sulfonamide	4 cases of keratitis believed due to contaminated collyria	26
Industrial Infirmary	*Ps. aeruginosa*	Boric Acid	Not proved but strongly suspected in 16 cases of eye infection	25
Eye Clinic	Proteus vulgaris	2% Pilocarpine	Contaminated although preserved with 1:5000 Zephiran	16
Eye Clinic	*Bacillus subtilis*	1% Atropine	Contaminated although preserved with 1:20,000 $HgCl_2$	16
Eye Clinic	Gram neg. rods, Pseudomonas, Staphylococcus	Fluorescein	5 out of 9 collyria found contaminated	24
Ophthalmologist's Office	Virus	Not specified	Epidemic keratoconjunctivitis spread by contaminated collyria	21 22
Ophthalmologist's Office	*Ps. aeruginosa*	Fluorescein	10 out of 15 collyria found contaminated	13
Ophthalmologist's Office	Gram neg. rods, fungi, Pseudomonas	Fluorescein	15 out of 31 collyria found contaminated	24
Not specified	Various	Various	14 different collyria reported contaminated	21
Not specified	*Ps. aeruginosa*	Penicillin	Severe cases of corneal ulcer produced	17
Not specified	*Ps. aeruginosa*	Sulfonamide	.....	24
Not specified	*Ps. aeruginosa*	Fluorescein	2 cases of ulcerative keratitis believed due to contaminated collyria	27
Not specified	Proteus sp.	Methylcellulose	.....	15
Manufacturer	Colon Bacilli, Streptococcus	Tannic silver proteinate	4 cases of fulminating endophthalmitis traced to contaminated collyria	18
Manufacturer	*Ps. aeruginosa*	Sulfonamide	Product recalled	12,13 18
Manufacturer	*Ps. aeruginosa*	Cortisone susp.	Product recalled	12,13 18
Manufacturer	*Ps. aeruginosa*	Silver proteinate	Product recalled	21
Manufacturer	Not specified	Rose petal infusion	Product recalled	22
Veterinarian's Office	*Ps. aeruginosa*	Fluorescein	Contaminated solution caused loss of sight in 2 dogs	23

Table II—Sterility of Commercial Sterile Ophthalmic Suspensions

Product	Formula	Number of Lots Tested	Containers Found Sterile
	Cortisone Acetate Suspensions		
A	Cortisone acetate.....0.5% Benzalkonium chloride.....0.02% Aqueous vehicle *q.s.*	2	5/5
B	Cortisone acetate.....0.5% Benzalkonium chloride.....0.02% Benzyl alcohol.....0.5% Aqueous vehicle *q.s.*	2	8/8
C	Cortisone acetate.....0.5% Benzalkonium chloride.....0.025% Chlorpheniramine maleate.....0.25% Aqueous vehicle *q.s.*	2	5/5
D	Cortisone acetate.....1.5% Sulfacetamide sodium.....1.0% Methylparaben.....0.05% Propylparaben.....0.01% Aqueous vehicle *q.s.*	2	11/11
E	Cortisone acetate.....1.5% Neomycin sulfate.....0.5% Myristyl gamma picolinium chloride.....0.02% Aqueous vehicle *q.s.*	10	200/200[a]
	Hydrocortisone Acetate Suspensions		
F	Hydrocortisone acetate.....0.5% Benzalkonium chloride.....0.02% Benzyl alcohol.....0.5% Aqueous vehicle *q.s.*	4	11/11
G	Hydrocortisone acetate.....0.5% Neomycin sulfate.....0.5% Benzalkonium chloride.....0.02% Benzyl alcohol.....0.5% Aqueous vehicle *q.s.*	2	6/6
H	Hydrocortisone acetate.....1.5% Neomycin sulfate.....0.5% Myristyl gamma picolinium chloride.....0.02% Aqueous vehicle *q.s.*	50	1000/1000[a]
I	Hydrocortisone acetate.....1.5% Oxytetracycline hydrochloride.....0.5% Special oily vehicle *q.s.*	2	5/5
	Delta-1 Hydrocortisone Acetate Suspension		
J	Delta-1 hydrocortisone acetate.....0.25% Neomycin sulfate.....0.5% Myristyl gamma picolinium chloride.....0.02% Aqueous vehicle *q.s.*	50	1000/1000[a,b]

[a] We are indebted to Jean W. Snyder of the Biological Control Department of the Upjohn Company for most of these assays.

[b] Comparable results were obtained with a 0.5% Delta-1 hydrocortisone acetate suspension in this vehicle sold as a veterinary product.

Preservative Effectiveness—A study of Table III will reveal the superiority of certain products containing antibiotics over the other products in this report. While the antibiotics are not always present in the formula as preservatives, they certainly act as such. Since they are so fast acting that they can be considered bactericidal, these may offer the hope of a "self-sterilizing" preservative system when combined with carefully selected non-antiobiotic preservatives. Riegelman et al[33] have previously suggested preservation of collyria with polymyxin B sulfate and a gram-positive bactericide. Combinations of neomycin and a quaternary ammonium preservative also seem to approach the ideal bactericidal-fungicidal combination for they can be used in concentrations which are not irritating to the eye yet are effective in overcoming gross contamination in a few hours or less.

It is interesting to note that suspension products E, G, H and J kill all organisms tested (including *Ps. aeruginosa*) so rapidly that they leave little, if anything, to be desired from the standpoint of the patient or physician using them several times a day. In fact, suspension product J appears so rapidly active, even against *Asp. niger*, that it could probably be used by the physician in his office or clinic with little danger of infectious carry-over from patient to patient. These properties are unique among the suspension products tested. Experimental lots of products E, H, and J prepared from nonsterile materials, equipment, and containers have always tested as sterile after standing several hours, hence this property seems to extend beyond the five individual organisms tested.

Although the quaternary ammonium compounds present in most of these formulas have been criticized for their irritant effect on the eye,[5] it is doubtful if these observations would apply to adrenal cortical hormone products since these powerful anti-inflammatory agents rapidly overcome any irritation.

Table III—Summary of Self-Sterilizing Times for 10 Commercial Sterile Ophthalmic Suspensions

	Product Formula (preservative, antibiotic, sulfonamide, etc.)	Exposure Time Required to Sterilize Against				
		Aspergillus niger	*Pseudomonas aeruginosa*	*Proteus vulgaris*	*Micrococcus aureus*	*Bacillus cereus*
	0.5% *Cortisone Acetate Ophthalmic Suspensions*					
A	0.02% Benzalkonium chloride	0–2 wk. (+)	0–1 min.	0–1 min.	2–4 wk.	0–2 wk.[a]
B	0.02% Benzalkonium chloride-0.5% benzyl alcohol	6–7 hr.	0–1 min.	0–1 min.	0–1 min.	2–4 wk.
C	0.025% Benzalkonium chloride-0.25% chlorpheniramine maleate	1–7 days	10–15 min.	1–5 min.	30–60 min.	4–7 days
	1.5% *Cortisone Acetate Ophthalmic Suspensions*					
D	10% Sulfacetamide sodium-0.05% methylparaben 0.01% propylparaben	1–2 wk.	10–15 min.	0–1 min.	1–24 hr.	4–7 days
E	0.5% Neomycin sulfate 0.02% Myristyl gamma picolinium chloride	1–2 hr.	0–1 min.	0–1 min.	0–1 min.	0–1 min.
	0.5% *Hydrocortisone Acetate Ophthalmic Suspensions*					
F	0.02% Benzalkonium chloride 0.5% Benzyl alcohol	1–2 hr.	1–5 min.	0–1 min.	1–5 min.	1–2 days
G	0.02% Benzalkonium chloride-0.5% benzyl alcohol-0.5% neomycin sulfate	2–3 hr.	0–1 min.	0–1 min.	0–1 min.	0–1 min.
	1.5% *Hydrocortisone Acetate Ophthalmic Suspensions*					
H	0.02% Myristyl gamma picolinium chloride 0.5% Neomycin sulfate	2–3 hr.	0–1 min.	0–1 min.	0–1 min.	0–1 min.
I	0.5% Oxytetracycline hydrochloride (oil vehicle)	4–24 hr.	1–96 hr.	1–96 hr.	0–1 min.	0–1 min.
	0.25% *Delta-1 Hydrocortisone Acetate Ophthalmic Suspension*					
J	0.02% Myristyl gamma picolinium chloride 0.5% Neomycin sulfate	15–30 min.	0–1 min.	0–1 min.	0–1 min.	0–1 min.

[a] Insufficient sample available to more accurately pinpoint self-sterilizing time.

Product C which contains slightly more quaternary ammonium compound than the other formulas may be an example of a preservative slightly inhibited by some ingredient in the vehicle (see Table III). Lawrence[3] in his review of chemical preservatives notes a number of incompatibilities which should be considered when using quaternary ammonium compounds.

Since certain anionic agents, nonionic agents, and inorganic ions may interfere with neomycin and quaternary preservatives, we do not feel this combination can be proposed as a "self-sterilizing" preservative system for all types of formulas. This combination should be very useful, however, if the other ingredients in the formula are carefully selected so as to eliminate incompatibilities and inhibitors. (This has now been accomplished with several other product types; e.g., a veterinary injection suspension of prednisolone, 10 mg. per cc., and an eye-ear drop of prednisolone acetate, 5 mg. per cc.) It may be widely used in the future by manufacturers since these preservatives can be prepared so that they are stable in solution for several years. This is not true of most other antibiotic preservative systems.

It may be worthy of note that although certain sulfonamide collyria have been reported as withdrawn from the market because of contamination with *Ps. aeruginosa*,[12,13] our tests indicate product D acts against this organism in 10–15 minutes. This may or may not be related to the parabens also present as preservatives.

Although oil based product I required at least an hour to kill *Ps. aeruginosa* and *Prot. vulgaris*, this product was quite rapidly active against the other bacteria tested, hence it is unlikely to be a question of lack of diffusion of preservatives from the oil into the aqueous phase surrounding the cells (see Table III). Eisman[21] has noted oily parenterals are bacteriostatic because the bacteria need water to grow. He also pointed out, however, that active spores may exist for a long time in such vehicles. No such active spores could be detected in this product.

Summary

The initial sterility of present-day commercial ophthalmic suspensions appears satisfactory. Sterility tests on more than 2,000 vials from 126 representative lots of 10 products made by 4 manufacturers revealed the absence of viable bacteria and fungi.

Contamination tests with 5 common organisms indicated that some of the 10 collyria tested were preserved with such slow-acting preservatives that continued use after accidental contamination could lead to serious eye infections. This might be serious if the contaminating organism were *Ps. aeruginosa*.

Aqueous hormone suspensions containing neomycin and a quaternary ammonium preservative approach the ideal from a self-sterilizing standpoint. One such product preserved with neomycin and myristyl gamma picolinium chloride killed *Ps. aeruginosa*, *Prot. vulgaris*, *M. pyogenes* var. *aureus* and *B. cereus* in less than a minute and killed *Asp. niger* in less than 30 minutes after artificial contamination.

The great difficulty in sterilizing ophthalmic suspensions, together with the danger of injury to the eye from improperly ground crystals, suggests such products should not be extemporaneously attempted in the average drug store.

Manufacturers' recommendations should be followed when compounding mixtures of commercial collyria with other drugs to avoid incompatibilities from suspending agents, wetting agents, and other ingredients not listed on the label. ■

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℞ Legend Drugs Converted to O-t-c

During 1958 only three drugs were proposed for exemption from the prescription dispensing requirement (diphemanil methylsulfate, pamabrom, and dyclonine hydrochloride). By the end of the year only the first two had been released for unrestricted sale to the consumer. This is the smallest number to be transferred from legend to over-the-counter status since the Durham-Humphrey Amendment to the Federal Food, Drug, and Cosmetic Act was approved and became Public Law 215 on October 26, 1951 (effective 6 months later).

Since the first drug was exempted on January 22, 1955, the total number of such drugs has grown to 23. The growth of the list has recently slowed, however. This may be due to the fact that each modern drug is now not only more effective and more specific in its action than its predecessors, but it is also much more potent.

The Food and Drug Administration finds itself constantly resisting strong pressures in its efforts to protect the public from mass distribution of toxic or habit-forming drugs.

The complete list of the 23 drugs exempted to date is as follows:

N-Acetyl-*p*-aminophenol (acetaminophen, Apamide, Tylenol)
Carbetapentane citrate (Toclase cough syrup)
Dextromethorphan hydrobromide (Romilar)
Diamthazole dihydrochloride (Asterol liquid and powder)
Dicyclomine hydrochloride (Bentyl, Kolantyl)
Diphemanil methylsulfate (Prantal methylsulfate)
Doxylamine succinate (Decapryn)
Dyclonine hydrochloride (Dyclone cream and solution)
Hexadenol (Hexacose, Hexathricin, Aeropak)
Isoamylhydrocupreine with Zolamine hydrochloride (Eucupin)
Meclizine hydrochloride (Bonamine)
Neomycin sulfate nasal spray or nose drops containing a vasoconstrictor, with or without other drugs for self-medication
Neomycin sulfate in troches containing a local anesthetic, with or without other drugs for self-medication
Oxytetracycline hydrochloride with polymixin B sulfate (Terramycin with polymyxin B)
Pamabrom (2-amino-2-methylpropanol-1 8-bromotheophyllinate)
Phenyltoloxamine dihydrogen citrate (Bristamin)
Pramoxine hydrochloride (Tronothane hydrochloride)
Sodium fluoride (Immunifluor, Flursol, Karidium)
Sodium gentisate (Gentisan, Gentasol, Gensalate)
Sodium monofluorophosphate (EDK)
Sulfur dioxide (Clinicide)
Tuaminoheptane sulfate (Tuamine)
Vibesate (Aeroplast spray)

Regulation

of prescription compounding

by Wilbur E. Powers*

IT CONTINUES to be a source of surprise that pharmacy acts in general contain relatively few sections concerning the regulation of prescription compounding and the conduct of the prescription department. This is particularly amazing in view of the fact that a certificate of registration as a pharmacist confers principally the privilege to compound prescriptions. By the same token, the permit granted in most states by the Board of Pharmacy for the operation of a pharmacy primarily is a license for the operation of an establishment in which prescriptions are compounded. It would seem, therefore, that the various pharmacy laws should be quite detailed in their regulation of prescription compounding activities, but there are relatively few definitions for a "prescription" in our 52 pharmacy acts.

The New Jersey Pharmacy Act defines a prescription as

"an order for drugs or medicines or combinations or mixtures thereof, written or signed by a duly licensed physician, dentist, veterinarian or other medical practitioner licensed to write prescriptions intended for the treatment or prevention of disease in man or animals, and includes orders for drugs or medicines or combinations or mixtures thereof transmitted to pharmacists through word of mouth, telephone, telegraph or other means of communication by a duly licensed physician, dentist, veterinarian or other medical practitioner licensed to write prescriptions intended for the treatment or prevention of disease in man or animals, and such prescriptions received by word of mouth, telephone, telegraph or other means of communication shall be recorded in writing by the pharmacist and the record so made by the pharmacist shall constitute the original prescription to be filed by the pharmacist. . . ."

An almost identical definition appears in the pharmacy laws of Arizona, Ohio, and Wyoming and the only real difference in the West Virginia law is that transmission by telegraph is not included. In all of these acts an exception is made for narcotic prescriptions to avoid any conflicts with State and Federal narcotic laws. What appears to be a condensed version of this definition is also included in the Florida Pharmacy Act.

The Arkansas law defines a prescription simply as

"an order for medicine or medicines usually written as a formula by a physician, dentist, veterinarian or other licensed medical practitioner. It contains the names, quantities of desired substances with instructions to the pharmacist for the preparation and to the patient for the use of the medicine at a particular time."

Other short definitions appear in the pharmacy laws of the Territory of Hawaii, Illinois, and Kansas. The California pharmacy laws define a prescription as

"an order given individually for the person for whom prescribed, directly from the prescriber to the furnisher, or indirectly by means of a written order, signed by the prescriber, and shall bear the name and address of the prescriber, his license classification, the name and address of the patient, the name and quantity of the drug prescribed, directions for use, and the date of issue. No person other than a physician, dentist, chiropodist or veterinarian shall prescribe or write a prescription."

This definition is very similar to those appearing in various barbiturate and dangerous drug laws.

Additional definitions can be found in the pharmacy laws of Idaho, Louisiana, Montana, Nevada, New Hampshire, and Pennsylvania. It is of interest to note that all these definitions refer to the order of the physician, but there is an additional statement under the New Hamphsire law which also covers the product dispensed. It states:

"Prescriptions may also apply to the finished products dispensed by the registered pharmacist in the registered pharmacy, on order of a legally competent practitioner as previously defined."

A number of pharmacy acts specifically refer to the filing of prescriptions. A typical section in the North Carolina pharmacy laws states:

"Every proprietor or manager of a drug store or pharmacy shall keep in his place of business a suitable book or file in which shall be preserved for a period of not less than five years the original of every prescription compounded or dispensed at such drug store or pharmacy."

This section is one of the very few providing for the issuance of copies of prescriptions stating:

"Upon the request of the prescribing physician, or of the person for whom such prescription was compounded or dispensed, the proprietor or manager of such drug store or pharmacy shall furnish a true and correct copy of such prescription, and said book or file of original prescriptions shall at all times be open to the inspection and examination of duly authorized officers of the law or other persons authorized and directed by the board of pharmacy to make such inspection and examination."

The North Dakota law also provides rather simply for the issuance of a copy of a prescription. Although I have not examined the various barbiturate laws, I noted the New York law prohibits the furnishing of a copy of a prescription written for barbiturates or any other hypnotic or somnifacient drug to the patient but the pharmacist may furnish a copy to licensed practitioners.

There are variations of this type of provision concerning filing appearing in the laws of Alabama, Alaska, Arizona, Delaware, Territory of Hawaii, Louisiana, Maryland, Missouri, Washington, West Virginia, and Wyoming, and all of these

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necessitate the prescription be kept on file 5 years. However, the pharmacy acts in effect in California, New Hampshire, and North Dakota only require the prescription to be kept on file 2 years. While the New Jersey Pharmacy Act states the prescription must be retained 5 years, there is a further qualification it must be kept at least 2 years after the last refilling.

Some of the acts just mentioned include provisions similar to the North Carolina section stating the conditions under which a prescription file may be inspected. The New Jersey law, however, spells this out in a little more detail by stating:

"The Board of Pharmacy or any of its agents is hereby empowered to inspect the prescription files and other prescription records of a pharmacy and to remove from said files and take possession of any original prescription; providing, that the authorized agent removing or taking possession of an original prescription shall place in the file from which it was removed a copy certified by said person to be a true copy of the original prescription thus removed; provided further, that the original copy shall be returned by the board of pharmacy to the file from which it was removed after it has served the purpose for which it was removed."

Few laws require that a record be kept of the pharmacist filling a prescription. Every pharmacy act either specifically states or implies that prescriptions must be filled either by a registered pharmacist or under the personal supervision of a registered pharmacist. In the pharmacies operated by a single pharmacist there is, of course, no question of who fills the prescription, but there could be some uncertainty in a pharmacy in which a number of pharmacists are employed. The Pharmacy Act of the State of Washington states:

"To every box, bottle, jar, tube, or other container of a prescription which is dispensed, there shall be affixed a label bearing the name and address of the pharmacy wherein the prescription is compounded, the corresponding serial number of the prescription, the name of the prescriber, his directions, the name of patient, date, and initials of the registered pharmacist who compounded the prescription."

The pharmacy laws in Alaska, Illinois, Utah, and Wyoming contain similar requirements. The New Jersey law is similar as far as basic labeling is concerned and also requires:

"Every registered pharmacist who fills or compounds a prescription, or who supervises the filling or compounding of a prescription by a person other than a pharmacist registered in this State, shall place his name or initials on the original prescription or on the label affixed to the container in which the prescription is dispensed or in a book kept for the purpose of recording prescriptions."

There are few references to renewals of prescriptions generally. A regulation promulgated under the Wisconsin Pharmacy Laws states: "A file shall be kept of all new prescriptions and a record kept of all prescriptions refilled." and a New Jersey regulation requires a record be kept of the date upon which a prescription is refilled either in the prescription or in a permanent prescription record book. The Arizona Pharmacy Act also regulates the refilling of prescriptions.

A law enacted last year in Utah is quite detailed in stipulations in this connection stating the physician shall indicate on the prescription either it shall not be refilled, may be refilled a specified number of times within a given period, may be refilled at will during the time specified, or other limitations. This law also requires a prescriber to indicate on a prescription for a "legend drug" that it shall not be refilled. The Tennessee law is similar but provides that in the absence of limitations a prescription may be refilled without limit provided it does not violate any other state or federal law. The Kansas law is also along this same vein but provides further that this section of the law shall not be construed as preventing a pharmacist from refusing to fill or refill any prescription if, in his professional judgment and discretion, he is of the opinion that it should not be filled or refilled.

A number of laws are quite specific on requirements concerning prescriptions for barbiturates and some for other dangerous drugs, prohibiting renewals without the authorization of the prescriber, providing for labeling, etc.

There are quite a few pharmacy acts in which substitution on prescriptions is prohibited. An example is the Montana pharmacy laws which state:

"It shall be unlawful for any person who prepares prescriptions, drugs, medicines, chemicals or poisons wilfully, negligently, or ignorantly to omit to label the package or receptacle, label it falsely, substitute an article different from the one ordered or deviate in any manner from the requirements of an order or prescription."

This board has promulgated a regulation under this section prohibiting brand substitution. There are a number of boards which have adopted specific regulations prohibiting brand substitution under sections of law such as this. In addition, at least 5 states now have specific sections in their laws covering brand substitution, and other boards will take action under other applicable sections. At this time every board of pharmacy has now taken cognizance of brand substitution and many have brought specific actions against offending pharmacists.

A number of boards have authority to take action against pharmacists who are guilty of "gross immorality," which is not defined in the law but has been interpreted to cover offenses such as brand substitution on prescriptions. Others have power to revoke a pharmacy permit if a pharmacy is conducted so as to endanger the public health or safety, or to revoke the license of a pharmacist found to have become unfit or incompetent by reason of negligence, habits, or other cause to practice as a pharmacist.

The New York pharmacy laws are quite detailed in these respects. Among other causes, any license or certificate may be revoked or suspended or the holder thereof reprimanded or disciplined upon proof that he has advertised definite fixed prices for the compounding and/or dispensing of prescriptions, upon proof he has entered into an agreement for the compounding and/or dispensing of secret formula (coded) prescriptions, and upon proof that he has been guilty of unprofessional conduct as defined by the regents. Substitution is covered under the definition for "unprofessional conduct."

A law was passed in Louisiana in 1956 granting the board of pharmacy authority to promulgate and enforce a Code of Ethics. The Code, which became effective January 31, 1957, is quite detailed and among the unethical practices listed are brand substitution, the providing of imprinted prescription blanks, advertising the prices of prescription items, the accepting of prescriptions for compounding in places other than the pharmacy in which ultimately filled, agreements involving coded prescriptions, rebates on prescriptions, and other such practices. The Board has the authority to suspend and revoke any license, certificate, or permit issued by it if the holder is found guilty of these unethical practices.

Many pharmacy acts also hold the owner or pharmacist responsible for the quality of all drugs, chemicals, or other medicines sold or dispensed, with an exception made for those sold in original sealed packages of the manufacturer. Several acts, such as in New Jersey and Wyoming, include sections specifically referring to the contents of a prescription indicating it is a violation if it is found to contain more or less than the quantity of the several or combined ingredients, etc.

Some miscellaneous requirements are of interest. Regulation 4 promulgated by the Arkansas Board states in part:

"No drug store, apothecary, pharmacy, etc. shall advertise 'Prescriptions filled only by Registered Pharmacists' when in fact, the owner or owners permit prescriptions to be compounded and dispensed by nonregistered persons under the supervision of a registered pharmacist. . . ."

Both a Connecticut rule and a New Jersey regulation prohibit the furnishing of imprinted prescription blanks as does the Louisiana Code of Ethics already discussed. An unusual provision in the Oklahoma Pharmacy Laws states:

"No practicing physician or surgeon shall write or cause to be written any prescription or recipe in any characters, figures or ciphers other than in the English or Latin language, generally in use among medical practitioners."

There are regulations in effect in several states, including Iowa and New Jersey, prohibiting the return of a prescription to stock after having been delivered to the patient. A section of the Kentucky Pharmacy Laws states:

"No prescription shall be knowingly filled except for the person for whom it was written."

No doubt other such requirements could be found, but this certainly gives a broad idea of the extensive coverage in some acts and the requirements that are not touched upon in many others. No attempt has been made to discuss narcotic prescriptions because the Federal law is quite exacting as are those in effect in various states. In those states in which dangerous drug laws have been passed, including specific barbiturate laws and central nervous

stimulant laws, the provisions are also for the most part quite detailed.

There is little specific pharmacy law concerning the filling of prescriptions or the handling of drugs generally in hospitals, and there are few regulations. There are some exemptions for hospitals written into the Pharmacy Laws of Oregon, but it is stated that:

"All prescriptions requiring the preparation of dosage forms or amounts of drugs, medicines, or chemicals not available in the stock of the hospital or necessitating the compounding of two or more drugs, medicines, or chemicals be compounded and dispensed only by a registered pharmacist for administration by or under the supervision of a registered nurse."

The Wisconsin Board has promulgated a number of regulations in this area including one requiring hospitals, convalescent homes, asylums, and similar institutions without limitation by reason of enumeration which do not have available the services of a staff pharmacist to secure their pharmaceutical services through a licensed pharmacy or drug store. Most boards, I believe, apply the same requirements of the law to the filling of prescriptions in hospitals, especially for outpatients, as apply to retail pharmacies, and about two-thirds of the boards license hospital pharmacies. There is a question which frequently comes up as to whether many of the simple orders for drugs in a hospital, such as for rubbing alcohol, are to be considered prescriptions but such questions must be resolved in each state.

All states but one require an applicant for registration as a pharmacist to submit evidence of having obtained practical experience, usually amounting to one year, and it is contemplated that substantial experience be obtained in the compounding of prescriptions. For example, a New Jersey intern is required by regulation to compound personally under the supervision of his pharmacist preceptor at least 2000 prescriptions during this one year of internship training. However, there has been discussion in some areas recently that only registered pharmacists should compound prescriptions and sell packaged medicines in the interest of greater protection of the public health. The question arises then as to how the necessary practical experience can be obtained and what complications would be encountered. Can experience in prescription compounding be obtained simply through observation, and will a pharmacy owner employ an intern who would spend a certain percentage of his time observing? This is already being done in one state. It is a problem which may have to be resolved in the future.

The author's conclusion, after studying the various laws, is that perhaps more attention should be given to adopting requirements regulating the compounding of prescriptions. A uniform model law may be desirable which could be tailored to the special situations existing from state to state. In any event it would appear this subject is deserving of more attention both in the interest of the profession and the public. ■

Pharmacy is helping to win

the fight against cancer

The Public Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION is distributing a new window streamer and panel on cancer for use with the health displays recently made available for National Pharmacy Week. See the cover and page 478 of the August 1958 issue and the cover and page 678 of the November issue of THIS JOURNAL.

One of every four living Americans will probably be afflicted with some form of cancer. Unless new treatments and cures are found, 26,000,000 Americans now living will die of the disease.

To combat this menace, medical research groups are marshaling efforts as never before in an intensive program to discover basic causes and effective methods of treatment. Teamed for the task are four federal agencies, two civilian cancer groups, 165 hospitals, and the nation's leading pharmaceutical firms.

What Progress Has Been Made?

It has been estimated that approximately one-third of patients with cancer are now being saved. With modern methods of treatment it is believed this figure could be raised to 50% if the diagnosis were made early. Some types of cancer have very high cure rates; skin cancer is about 90% curable. With others, such as leukemia, Hodgkin's disease and cancer of the pancreas, biliary passages and liver, recovery occurs in only about 1% of all cases.

In broad terms, the treatment of cancer can be broken down into three main categories: surgery, radiation, and chemotherapy. Of the three, chemotherapy has become one of the most important areas of cancer research.

Chemotherapy

Chemotherapy, the use of drugs in the treatment of cancer, began about 1940 with the use of nitrogen mustards. Since then, great attention has been focused on this field of research.

Pressing the search for effective chemotherapeutic agents is the Cancer Chemotherapy National Service Center, a voluntary organization staffed jointly by the sponsoring organizations: The National Cancer Institute, American Cancer Society, Damon Runyon Memorial Fund for Cancer Research, Veterans Administration, Atomic Energy Commission, and the Food and Drug Administration.

Already some 35,000 compounds have passed through screening tests and new ones are being checked at the rate of 40,000 yearly. Only a very few thus far have proved promising enough for actual clinical testing.

The search for chemical agents of value against cancer has led to several classes of drugs which have some temporary growth-restraining action on some types of cancer in man. Essentially they are:

1. *Polyfunctional alkylating agents*—These drugs act by attaching to living tissue to destroy it or inhibit further growth.
2. *Antimetabolites*—Metabolism is the process of tissue change and tissue growth. Metabolites are the chemical products involved in this body function. Antimetabolites are similar chemical products which act to interfere with this process and arrest the building of new cells.
3. *Steroids*—Steroids are a family of substances critical to plant and animal life. An example of natural steroids found in the body are the sex hormones and hormones of the adrenal cortex. These regulate the growth of certain body cells, including cancerous as well as healthy ones. The search is for a synthetic steroid that will act to control the production or function of such hormones.
4. *Other*—This area includes substances such as actinomycins, colchicine, urethane, and others that do not fit into an established category.

The Outlook

Cancer, the second leading cause of death in this country, is responsible for 1 out of every 6 deaths annually in the United States. A total of 450,000 new cases of cancer will be found this year, but about half of them can be saved by maximum use of present diagnostic and therapeutic methods, according to the publication *Patterns of Disease* prepared by Parke, Davis & Company and recent reports from the American Cancer Society and the U.S. Department of Health Education and Welfare.

Fifty years ago a diagnosis of cancer was a sentence of death, but now, for example, uterine cancer, which kills 16,000 women annually, is almost 100% curable if detected early enough.

We are gaining headway in the war against cancer. Diagnostic techniques in particular have improved immensely. Survival time has increased significantly and more patients are completely recovering.

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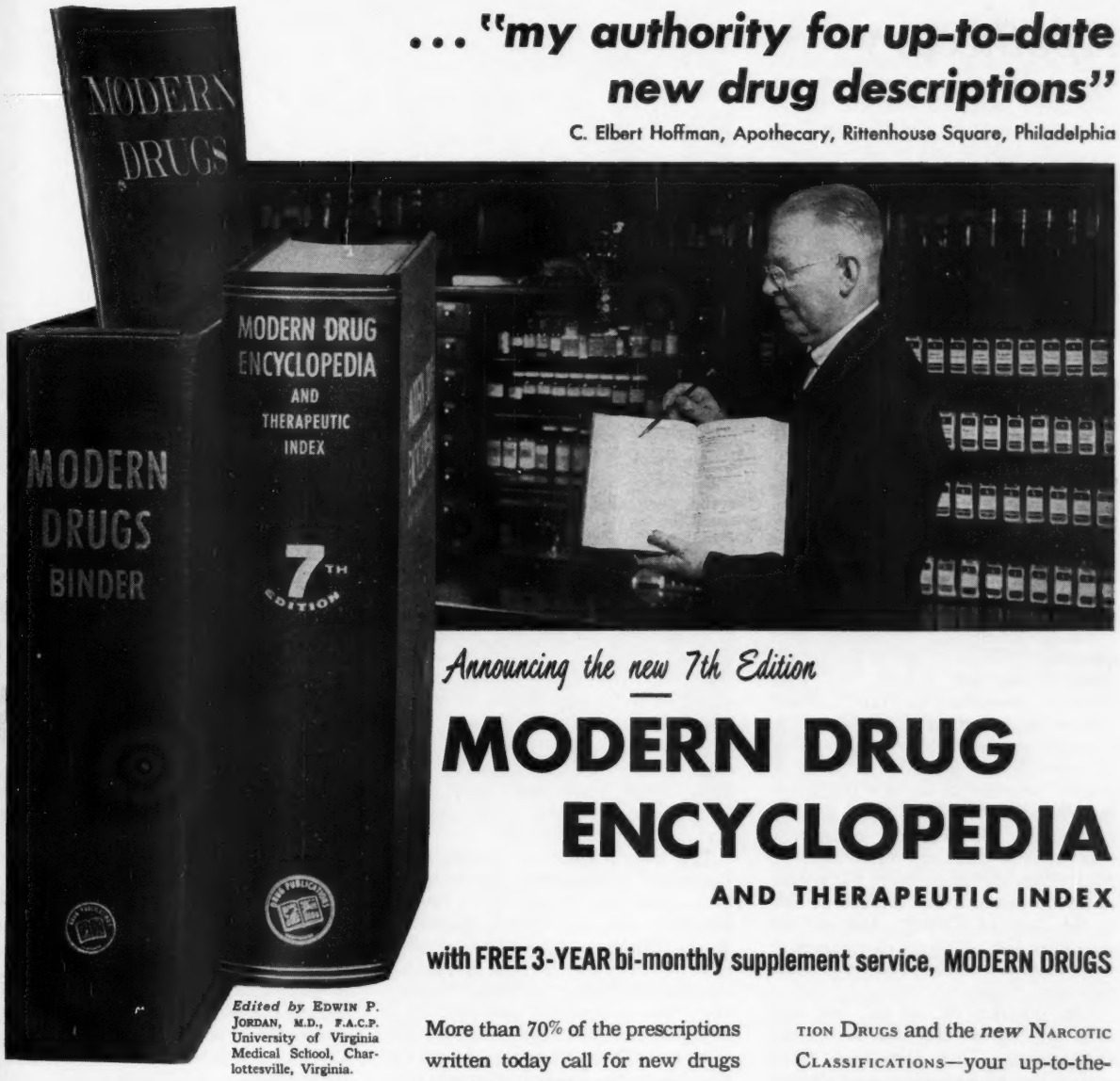

Edited by EDWIN P. JORDAN, M.D., F.A.C.P. University of Virginia Medical School, Charlottesville, Virginia.

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PH-19

Where is the oldest pharmacy?

*by George Griffenhagen**

OVER THE YEARS many pharmacies have claimed the title of "World's Oldest." The most recent of these has been the Augier Pharmacy in Avignin, France, founded, in 1618 (Fig. 1). Dr. Marcel Augier, the present proprietor, is the tenth generation in direct line to operate the pharmacy, also claimed as "a world record."[1]

Before attempting to answer the question, "Where is the oldest pharmacy?," one must point out that "oldest," in contrast to "first," means "oldest in operation." Whether the claimant should be restricted to those "in continuous operation" is a moot point. For example would a pharmacy established in 1750 which has been in continuous operation be considered older than a pharmacy established in 1650 which closed its doors for a year or two because of the ravages of war or an "act of God?" And do we disqualify the 1750 pharmacy because the owner once closed the shop for a two-weeks vacation?

The question of original site and even original building also enters the controversy. Then there are pharmacies housed in buildings which are hundreds of years older than the business itself leading to claims of "pharmacy in the oldest building." And how much special merit is due those who claim fame as being the "oldest pharmacy under continuous operation by a single family?" Or the "oldest pharmacy in Southern Slobovia north of the Snowcapped Mountains?" or the "oldest pharmacy on Main Street between 2nd and 3rd, Yourtown, U.S.A.?"

Before proceeding further, it must be emphasized that this article will not answer the question originally raised—i.e., "Where is the oldest pharmacy?"

One might suspect that the oldest pharmacy would be located in the Middle East where, as far as we know, there were established in Bagdad in the eighth century the first privately owned but governmentally supervised stores preparing and dealing in drugs.[2] While numerous pharmacies still exist today in the Middle East which probably do not differ materially from those 1,000 years ago, these open front bazaar-type pharmacies do not lend themselves to longevity.

The Hirsch-Apotheke (Golden Stag Pharmacy) in Strasbourg has variously been called the "oldest pharmacy in Europe"[3] and the "oldest pharmacy in the World."[4] It is recorded that there was a pharmacist in Strasbourg in 1268, and further evidence suggests that this pharmacist was the first owner of the Hirsch-Apotheke. From 1700 to 1850 the shop was owned by the Spielmann family; it was Jacob Reinbold Spielmann (1722–1783) who became famed as a teacher of chemistry, and in the laboratory of this old pharmacy Goethe obtained his first instruction in chemistry.[5] The photograph (Fig. 2) depicts this old pharmacy as it now stands.

Old pharmacies in Germany include the Marien-Apotheke in Augsburg which traces its founding back to 1283, and the Grüne Apotheke in Prenzlau which is positively documented by a "Privilegium" (royal privilege or franchise to open and operate a pharmacy) signed by Margrave Otto IV in 1306.[6]

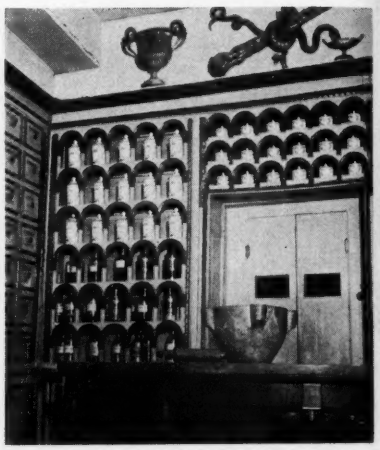

Fig. 1. The Augier Pharmacy in Avignon, France, was founded in 1618.

Several years ago, Ripley's "Believe it or Not" included the following announcement: "The Oldest Drug Store in the World. Franciscan Apothecary Shop in Ragusa, Yugoslavia has been doing business for 635 years! Its doors have never been closed since 1307." Given the choice of believing it or not, we choose not to believe that this is the "Oldest Drug Store in the world." There is even some question about the founding date, an alternate given as 1317.[7] The shop was apparently originally operated by the Franciscan friars as a hospital pharmacy in Ragusa (Dubrovnik) Franciscan Monastery. The shop still occupies the whole of one side of the cloister.

It has been recorded[8] that the oldest

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*Curator, Division of Medical Sciences, Smithsonian Institution, Washington, D. C. This author would particularly like to express apreciation to Dr. Guillermo Folch Jou of Madrid, Dr. Wolfgang-Hagen Hein of Frankfurt, and Mr. Carl Christian Petersen of Copenhagen for data in preparing this article. He would also like to thank Dr. Raymond S. Stites of the National Gallery of Art for the photograph of the Strasbourg pharmacy.

[1] Moyal, M., "The World's Oldest Pharmacy," *Pacific Drug Review*, **70**, 16, 18, 48 (September, 1958) and "La Farmacia más Antigua de Francia", *El Farmaceutico*, **34**, 12–13, 37 (Nov. 1958); see also *Drug Topics*, **101**, 16 (April 1, 1957); and *Modern Pharmacy*, **38**, 14 (May, 1958).

[2] Kremers, E. and Urdang, G. *History of Pharmacy*, Philadelphia, 1951, p. 35.

[3] *Die Alte Apotheke*, Paul Hartmann AG, Heidenheim/Brenz, 1954, p. 16.

[4] *Western Druggist*, **20**, 220 (1898).

[5] Urdang, G., *Goethe and Pharmacy*, American Institute of the History of Pharmacy, Madison, Wisconsin, 1949, p. 10. Compare the illustration of the pharmacy as it appeared in 1770 with the modern photograph.

[6] Ferchl, F., "Deutsche Apotheken-Privilegien," *Zur Geschichte der Deutsch. Apotheke*, Nr. 7, S. 26 (1933/34); and Kremers and Urdang, *History of Pharmacy* p. 115. According to Wolfgang Hagen Hein of Frankfurt/Main, this is the oldest such document in Germany.

[7] Tartalja, H., *Die Pharmazeutische Industrie*, **15**, 233, 340, 405 (1953). See Also *Chemist and Druggist*, **124**, 784 (1936); *Pharmazeutische Zeitung*, **87**, 634 (1951); and *Pharmaceutical Journal* **113**, 339 (1951).

[8] Hafliger, J.A., *Pharmazeutische Altertumskunde*, Zurich and Basel, 1931, p. 36.

[9] Folch, G
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Fig. 2. The Hirsch-Apotheke in Strasbourg may be the oldest pharmacy in the world. Evidence suggests that it was founded in 1268.

pharmacy in Spain, located in Llivia, Province of Gerona, dates from the 14th century, but Guillermo Folch of Madrid points out that he has found no documentation to support this claim. The Antigua Farmacia de la Reina Madre is described as the oldest pharmacy in Madrid.[9]

In Venice, the Farmacia "Alla Colonna e Mezza" is recorded as having been founded about 1400; while Farmacia del Canto al Diamante in Florence is described as the oldest in that city, if not the oldest in Italy. The latter pharmacy is known to have been operating in 1498.[10] The Spezieria (pharmacy) of the Santo Spirito Hospital in Rome, dating from at least 1587, continues to serve the patients in this ancient hospital.[11]

The Løve Apoteket in Odense on the Island of Fyn is reported [12] as the oldest Danish pharmacy, having been established in 1549. It seems that the pharmacy Svaneapoteket in Bergen, founded in 1588, is the oldest in Norway;[13] and the Apoteket Lejonet in Stockholm, Sweden, founded as a pharmacy in the King's Palace about 1552, is the oldest in that country.[14]

Despite the fact that chemist shops were established in England as early as the 14th century, the oldest pharmacy cannot be dated prior to the 18th century. It is claimed that the oldest shop in Great Britain was established by John Beckwith in 1720 in Knaresborough, where it still stands today on the east side of the market place of that ancient Yorkshire town.[15] However, the firm of Allen and Hanburys was founded as a pharmacy in Old Plough Court, off Lombard Street, London in 1715 by Silvanus Bevan.[16]

Until the Bethlehem (Pennsylvania) Apothecary closed its doors several years ago,[17] it was undoubtedly the oldest pharmacy in the U.S.A.[18] Now the answer is obscure, but the claimants to the title are abundant. The firm of Caswell-Massey of New York City proclaims to be the "Oldest Chemists and Perfumers in America" by tracing their origin to a Newport, Rhode Island, apothecary shop founded by Dr. William Hunter in 1752. Charles Feke operated the Hunter shop from 1777 until he opened his own store in Newport's Washington Square in 1796. The first Caswell joined the Washington Square firm in the 1840's and established a branch in New York City in 1860.[19] The Newport branch was subsequently closed leaving the New York store to trace this genealogy.

A full page advertisement in *The Winchester* (Virginia) *Evening Star* for May 22, 1937 reported that Miller's Drug Store in that city "is the oldest drug store operating in the United States." According to the advertisement, "Miller's was founded in 1764 by Godfrey Miller". Existing records tend to confirm that a drug store was established in Winchester by Godfrey Miller, but perhaps not as early as 1764. The earliest reference to Godfrey Miller is found in 1782, and six years later a list of inhabitants of Winchester records Godfrey Miller as an "apothecary" owning one horse and no slaves.[20] The pharmacy remained in the Miller family from its founding until 1940 and the present proprietor is A. G. Spillman.[21]

It would require several volumes to record all claimants to the title of "oldest pharmacy," so this brief review is only intended to remind one and all that such a claim is not always easy to evaluate. Pharmacists around the world can be proud of these "oldest" pharmacies as evidence of their heritage. This author only hopes that the such claims are hot used so promisceiously that they lose their true meaning and importance.

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[9] Folch, G., "La Botica de la Reina Madre," *Farmacia Nueva*, 209 (1953).

[10] Pedrazzini, C., *La Farmacia Storica ed Artistica Italiana*, Milan, 1934.

[11] Pietro de Angelis, *La Spezieria dell'Arcospedale di Santo Spirito. . .*, Rome, 1954.

[12] Dam og Schaeffer, *De danske Apotekers Historie*, vol. 1, Copenhagen, 1925; through Carl Christian Petersen of Copenhagen.

[13] Nic. Aagaard Sverre, *Et studium av Farmasiens histoire*, Oslo, 1952, p. 131; through Carl Christian Petersen of Copenhagen.

[14] Levertin, A. et al, *Sveriges Apotekarhistoria*, Stockholm, 1910-1918, vol. 1, 9, 14; through Carl Christian Petersen of Copenhagen.

[15] Thompson, C. J. S., *The Mystery and Art of the Apothecary*, London, 1929, pp. 186 (opp.) and 279.

[16] Chapman-Huston, D. and Cripps, E. C. *Through a City Archway. The Story of Allen and Hanburys 1715-1954*, London, 1954.

[17] Griffenhagen, G. B., "Collector's Corner," THIS JOURNAL, **16**, 242 (1955)

[18] *Druggist Circular*, **71**, 1093 (1927); *Merck's Report*, **41**, 22 (Jan., 1932) *American Journal of Pharmacy*, **111**, 234 (1939) *Tile and Till*, **25**, 67 (1939); Travel, **91**, 22 (Oct., 1948); *Dow Diamond*, **12**, 6 (Oct., 1949); *Early American Pharmacies*, Washington, D.C., 1955.

[19] *The Rhode Islander*, *Providence Sunday Journal Magazine* (March 14, 1948); *Modern Pharmacy*, **35**, 19 (Jan., 1950); *Cosmopolitan*, (Nov., 1951); *The New York Times*, Feb. 12, 1952, p. 29: *New York Herald Tribune*, March 14, 1952, p. 10.

[20] Morton, F., *The Story of Winchester*, Strasburg, Va., 1925, See also W. G. Russel, *What I Know about Winchester*, Staunton, Va., 1953.

[21] Personal interviews with Mrs. Francis K. Miller and Mr. A. G. Spillman of Winchester, Va.

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APhA Women's Auxiliary

New Year's Greeting

Mrs. Cusick

As a new year absorbs the old it is customary to take inventory of assets and debits, gains and losses. Our personal gains most valued are those intangibles, new friends made through Auxiliary contacts, our wonderful committee chairmen and their members, always so willing and co-operative, Mrs. L. L. Riggs, who preceded us, and especially our fellow officers who are doing such excellent work and never lag in their duties. Also in bold black letters should be listed the staff at the APhA headquarters, especially Dr. Fischelis, who listens and advises, when asked, and the Editor of THIS JOURNAL, who allows this column to slide in at the deadline and never gives the reproach which is so deserved. The loss side of a ledger is inevitably one of regret but is always present; our losses are in the passing of friends, whom we have so long associated with the Auxiliary, but when one's work is finished one is taken and certainly those who have been taken have given much to us all. To have known them was our privilege.

May 1959 be filled with the best of everything and our particular wish is that there may be peace for all, in all ways and all places. Within the walls of your homes and in your associations may there be peace. May peace, both with honor and dignity, prevail throughout the world. May the hungry be fed, the sick be healed, and those who mourn be comforted; this too is peace.

Dinner for George Larrick

It was a pleasure to be in attendance at the dinner recently held at the Waldorf in New York, honoring George Larrick, Commissioner of the Food and Drug Administration. All are indebted to him and his department for the outstanding work done in protecting the health of the citizenry of the United States. Congratulations again, Mr. Larrick, on receiving this much-deserved recognition.

New Auxiliary Members

It is a pleasure to welcome Mrs. Irwin Shupe, of Rensselaer, New York, and Mrs. Eugene Wells, of Womelsdorf, Pennsylvania as new members of the Auxiliary.

Hugh Mercer Apothecary Shop Committee

In the near future Mrs. F. Royce Franzoni will hold a meeting of Auxiliary members in the area of Washington and Fredericksburg relative to planning more extensively the assistance the Auxiliary can render to the Apothecary shop, as authorized at the convention in Los Angeles. Inquiries have been received from some state auxiliaries and sororities regarding donations to the shop and also seeking more information about it. If your state auxiliary or any interested group wishes brochures, simply address Mrs. F. Royce Franzoni, 3508 North Abington Street, Arlington 7, Virginia. In planning a souvenir for an event for those in Pharmacy, the reproduction of the early Pharmacopeia, which sells at 25¢ at the shop, would be an item of interest and appreciated by the recipients. An order sent to Mrs. Franzoni would be taken care of immediately and at the same time further prove our active interest in this project.

Dorothy M. Cusick, President
APhA Women's Auxiliary

Federal and State Actions

FTC Actions

False Advertising

Recent charges were made by the FTC against the following for false claims: 7-day Reducer (Staz-Set, Inc., 42 W. 38th St., New York City), Du-Dol (Anderson Pharmaceutical Corp., 3560 Broadway, New York City), Hungrex with P.P.A. (Alleghany Pharmacal Corp., 16 W. 61st St., New York City), K-12, (Practical Research K-12 Co., 403 Market St., Newark, N.J.), McKinney's Mixture (McKinney's Laboratory, Highmarket St., Georgetown, S.C.), Norkon Tablets (Norkon Pharmacal, Inc., 522 Fifth Avenue, New York City), Regimen Tablets (Drug Research Corp., 269 Lexington Avenue, New York City), VCS Formula and Poundsoff (General Products Corp., 541 N. Le Brea, Los Angeles, Calif.).

Sav-A-Stop, Inc.—This Jacksonville, Florida rack merchandiser or wholesaler of drug proprietaries and toiletries, upon gaining control of Jay Distributing, inaugurated a plan providing that customers would get an additional 3% discount on these products if they agreed to carry the household items distributed by Jay. As a result the FTC has charged discrimination in price, because the respondents granted this extra discount to favored customers without requiring them to carry the household items, while the nonfavored customers must carry the items to receive it; and further, giving this additional discount to customers on one line of merchandise if they agreed to carry a totally unrelated line is an unfair method of competition. The FTC charges that the effect of these discriminations may be substantially to lessen competition or tend to monopoly, in violation of the Robinson-Patman Amendment to the Clayton Act.

FDA Actions

Illegal Over-the-Counter Sales for the Month of November

Illinois—Dore Drugs, Inc., Wilber Dorfman, pres., apprentice pharmacist, Chicago, Ill.—Selling antibiotics and amphetamine without physicians' prescriptions. Firm fined $525 plus $35 court costs; Dorfman fined $475.

Indiana—Sydney Williams, t/a Williams' Prescription Pharmacy, Indianapolis, Ind.—Selling and refilling prescriptions for Butazolidin, antibiotics, amphetamine, and barbiturates without physicians' authorizations. Fined $2,250 plus $44.50 costs.

Nebraska—Doran Hertel, drug salesman, Omaha, Nebr.—Selling a tranquilizer and hypnotic without physicians' prescriptions. Fined $250 plus $49.60 costs and placed on probation for 18 months.

New Jersey—Walter Brodzinski, t/a Jung's Pharmacy, Newark, N.J.—Refilling prescriptions for barbiturates and amphetamine without physicians' authorizations. Fined $250 and placed on probation for 1 year. (Terminated in October but not previously reported.)

New York—Harry Margolis, t/a Margolis Pharmacy, Brooklyn, N.Y.—Selling and refilling prescriptions for amphetamine, sulfonamides, and hormones without physicians' authorizations. Fined $500.

Virginia—Woodrow C. Brightwell, postal clerk, Roanoke, Va.—Selling sulfonamides, chloral hydrate, barbiturates, antibiotics, and *Rauwolfia serpentina* without physicians' prescriptions. Fined $500.

Pennsylvania—Professional Products Co., Raymond Steiner, ptnr., Philadelphia, Pa.—Shipping prescription drugs to persons unauthorized to dispense them; also shipping drugs without required labeling, and shipping substandard vitamins. Fined $1,000 and placed on probation for 1 year.

Food Additives

The Food and Drug Administration has published proposed definitions and procedural and interpretative regulations concerning food additives and has posted a list of substances that are generally recognized as safe and has exempted them from the requirements of tolerances. Complete information is published in the *Federal Register*, **23,** 9511–9517 (December 9, 1958).

Other Actions

N-Acetyl-p-aminophenol—The FDA has amended its over-the-counter ruling on this drug to include the synonym *acetaminophen*, adopted as the generic name by recognized authorities in the fields of Pharmacy and Medicine. Other names under which this drug is sold include Apamide, APAP, Fendon, Metalid, Nebs, Tempra, Tylenol, and p-hydroxy-acetanilid. [*Fed. Reg.* **23,** 8285 (Oct. 28, 1958)]

Communicable Diseases Summary

THE number of cases of the communicable diseases shown in the table below are based on reports by Health Officers of each State and of Hawaii and Puerto Rico to the National Office of Vital Statistics of the Department of Health, Education, and Welfare, Washington, D.C. The number of cases of each disease occurring during each of the last 4 weeks are reported and also cumulative totals to date for 1958 and for the corresponding period of 1957, as well as the 1953–1957 median for this same period. The approximate seasonal low point for each of the diseases is shown in the last column.

Communicable Disease	Cases Reported for Week Ending				Cumulative Number			Low Point
Selected Notifiable Disease	*Nov. 15, 1958*	*Nov. 22, 1958*	*Nov. 29, 1958*	*Dec. 6, 1958[g]*	*First 49 1958[g]*	*Weeks 1957*	*Median 1953–57*	*(Approximate Seasonal)*
Anthrax	–	2[e]	–	–	15	19	26	[h]
Botulism	1[a]	–	–	–	4	11	12	[h]
Brucellosis	7	9	13	21	761	875	1,216	[h]
Diphtheria	28	47	32	41	844	1,082	1,808	July 1
Encephalitis, infectious	58	43	33	36	2,247	1,785	1,785	June 1
Hepatitis, infectious, and serum	334	359	253	319	14,698	14,146	30,270	Sept. 1
Malaria	–	3	1	–	73	144	461	[h]
Measles	2,936	3,654	3,718	4,107	740,945	470,438	543,228	Sept. 1
Meningococcal infections	46	48	45	51	2,444	2,464	3,296	Sept. 1
Meningitis, other	123[b]	88[d]	86[f]	91[i]	4,167	2,232	– – –	– – –
Poliomyelitis	162	134	119	92	5,773[j]	5,789	28,739	Apr. 1
Paralytic	106	85	69	60	2,945	2,098	– – –	Apr. 1
Nonparalytic	37	24	28	13	1,971	2,771	– – –	Apr. 1
Unspecified	19	25	22	19	857	920	– – –	Apr. 1
Psittacosis	1	3	2	2	135	235	259	[h]
Rabies in man	–	1[c]	–	–	5	5	8	[h]
Typhoid fever	22	28	–	16	1,015	1,253	1,708	Apr. 1
Typhus fever, endemic	–	1	–	3	69	111	127	Apr. 1

[a] Reported in N. C. [b] Includes 49 cases of aseptic meningitis. [c] Reported in Mass. and Pa. [d] Includes 31 cases of aseptic meningitis. [e] Reported in Calif. [f] Includes 19 cases of aseptic meningitis. [g] Data exclude report from Mont. for the current week. [h] Data show no pronounced seasonal change in incidence. [i] Includes 28 cases of aseptic meningitis. [j] Includes revised report for one or more of the categories of poliomyelitis for Ind., Iowa, and Wash. Symbols: 1 dash (–): no cases reported; 3 dashes (– – –): data not available.

Economics

by Richard R. Dier

Sales Gains Continue in 1958

Total sales of both chains and independents rose through the first half of 1958, recording a hefty 7.2% combined increase over the comparable 1957 period. In terms of dollars, January–June 1958 sales reached $3,200,000,000 as opposed to sales of $2,984,000,000 in the first half of 1957.

Individually, sales of independents were $2,593,000,000 in January–June 1958, an increase of 6.8% over the $2,427,000,000 recorded in 1957. Chains had sales of $607,000,000 in the first half of 1958, an increase of 9.0% over the $557,000,000 reported in 1957 (see Chart I).

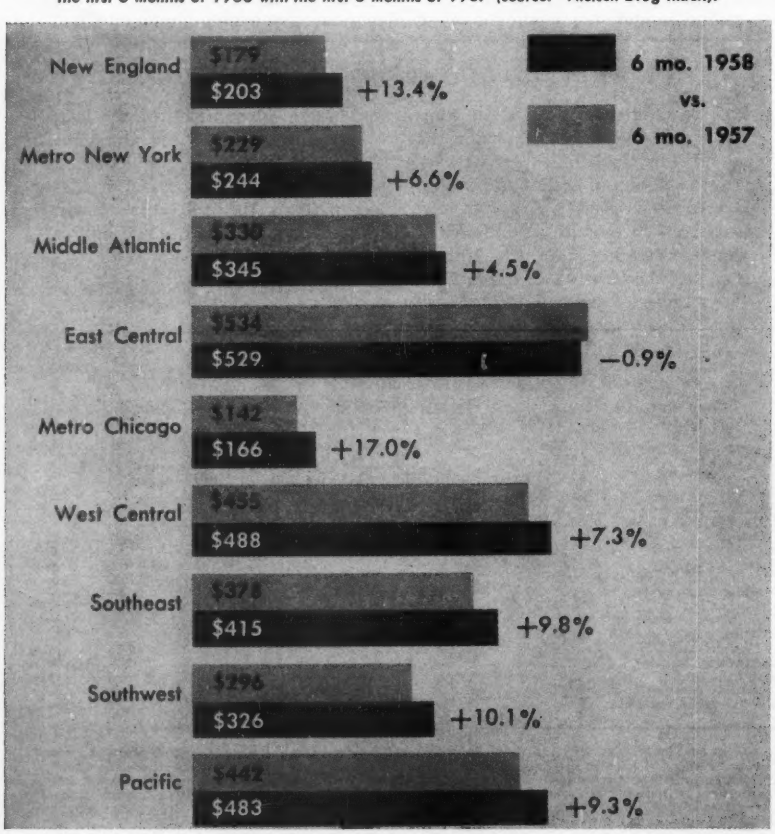
These illuminating facts form part of the 24th annual edition of the *Nielsen Report to Retail Drug and Proprietary Stores*, which includes trends and developments in retail pharmacy during 1957 and more recent trends during the first half of 1958.

1958 Sales Trends Vary by Area

Highest increases were in the Metropolitan Chicago and New England areas. In the South and West, in general, sales volumes increased substantially over the first half of 1957. Regionally more dependent on heavy industries and more apt to reflect recession conditions, the Middle Atlantic gained a modest 4.5% in 1958, while the East Central area proved to be the only area on the minus side in reporting a sales decrease of 0.9% (see Chart II).

A further breakdown by chains and independents reveals that independents in the East Central area had sales of $405,000,000 in January–June 1958, a decrease of 2.2% from the $414,000,000 reported last year. On the other hand, chains in the same area fared better with sales of $125,000,000, an increase of 5.9% over the $118,000,000 sales in 1957.

Chart I—Recent sales trends of all drug and proprietary stores in the U.S. in millions of dollars, comparing the first 6 months of 1958 with the first 6 months of 1957 (source: Nielsen Drug Index).



The highest sales gains were recorded in the Metropolitan Chicago area by independents who racked up $120,000,000 total sales in the first half of 1958, an increase of 18.8% over the $101,000,000 sales in the comparable 1957 period. Chains in that area were only ahead 7.3%.

New England independents were ahead 14.1% and chains 6.3%. Pacific independents and chains both had sales gains of 9.0%. Metropolitan New York independents increased their sales 6.7% and chains 4.8%. Middle Atlantic chains showed a 6.7% increase, while independents only had a 3.5% gain. West Central chains increased their sales 10.8% and independents 6.5%. In the Southeast, chains and independents ran neck-and-neck with chains scoring a 10.0% increase and independents 9.8%. In the Southwest, chains reported sales gains of 12.5% and independents 10.0%. According to the *Nielsen Drug Index*, chains represent four or more stores (see Chart III).

Prescriptions per Family Vary Widely

In 1957, the average number of prescriptions dispensed per family in the United States was 11.6. However, there are wide territorial differences. For example, the East Central area has 17.2% of all families; yet it purchased only 12.8% of all prescriptions for an average of 8.6 per family. In the Southeast, which has 14.0% of the families, 19.9% of all prescriptions were dispensed for an average of 16.5 per family.

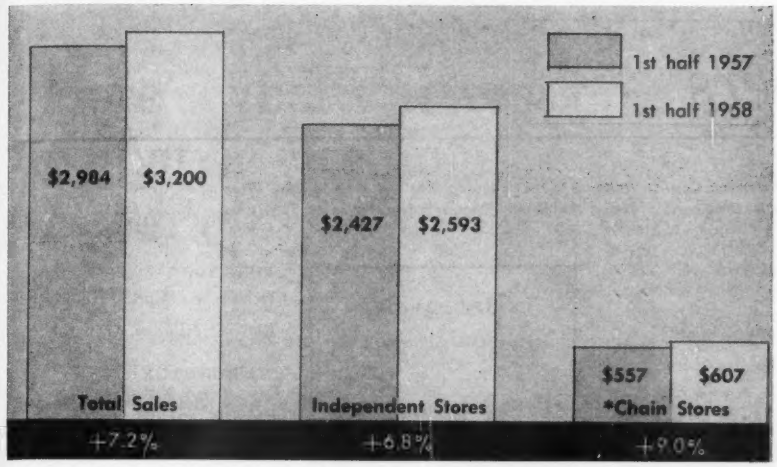
The West Central area has 19.1% of all families and bought 19.1% of all prescriptions for an average of 11.6 per family. The Middle Atlantic has 20.2% of all families; purchased 18.4% of all prescriptions for an average of 10.6 per family.

The Pacific area has 13.9% of all families; purchased 13.3% of all prescriptions for an average of 11.1 per family. The Southwest has 9.7% of all families; purchased 10.8% of all prescriptions for an average of 13.0 per family. New England has 5.8% of all families and bought 5.7% of all prescriptions for an average of 11.4 per family.

The above data on prescriptions includes both new and refill prescriptions.

Medicare Predicament

Although Congress appropriated only $70,246,000 to operate the Medicare



* 4 or more stores

Chart II—Recent sales of all drug and proprietary stores by area in millions of dollars (source: Nielsen Drug Index).

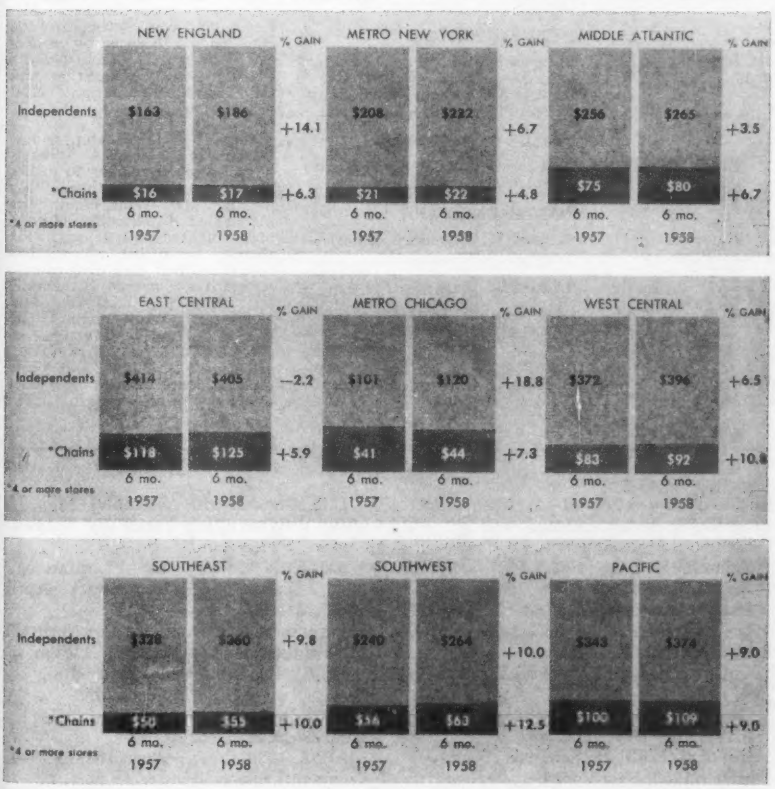
Program during the fiscal year 1959, it is reported that Oct. 1958 costs reached an all-time high of $9,200,000. At this rate, the full year expenditures could well exceed $100,000,000.

This fact is significant since the Congressional appropriation is about $30,000,000 under this figure, and it cannot be exceeded unless a new appropriation is requested from Congress. Obviously, this will have to be done to save the entire program from being cut off because of lack of funds.

Retail Business Failures

There were 142 retail pharmacy failures during the period January–October 1958 compared to a total of 134 during the similar period in 1957. Approximate liabilities for 1958 totaled $3,600,000; for 1957, $3,300,000, according to *Dun's Review and Modern Industry.*

Chart III—Recent sales of drug and proprietary stores by store type for Eastern areas (top), Central areas (middle), and South and West areas (bottom) in millions of dollars (source: Nielsen Drug Index).



INDEX INTERNATIONALIS PHARMACEUTICUS

Heinige..Just..
Navrátil..Rybáček..
Šumbera

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Newell W. Stewart, New York City

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WISCONSIN

John H. Robinson, Kenosha

TERRITORIES

Isabel O. Bonilla Mercado, Arecibo, Puerto Rico

INTERNATIONAL

Emilio Enriquez, Havana, Cuba

Deceased

S. Bascombe Alloway, Erie, Pa., Nov. 15, 1958
Nelson J. Burley, Detroit, Mich. Oct. 30, 1958
Theodore Goldblum, Philadelphia, Pa., Dec. 9, 1958
Anton Hogstad, Jr., Toledo, Ohio, Nov. 28, 1958
William A. Huhn, Chicago, Ill.
Charles J. Lynn, Indianapolis, Ind., Sept. 22, 1958 (Life Member)
Henry E. Melton, Detroit, Mich., Dec. 27, 1957 (Life Member)
Henry A. Spaulding, Derry, N. H., Oct. 6, 1958
Alton P. Tobey, Hampton, N. H., Aug. 3, 1958
Edwin R. Westmoreland, Lockhart, Tex., Nov. 3, 1958 (Life Member)

Obituaries

Theodore Goldblum, 65, President of the West Wholesale Drug Company, Philadelphia, died on December 8. He started the company in 1937. A graduate of Philadelphia College of Pharmacy and Science, Mr. Goldblum was active in the Philadelphia Association of Retail Druggists, the Pennsylvania Pharmaceutical Association, and the American Pharmaceutical Association.

Clara I. Winkelmann, widow of the late Ernest A. Winkelmann, died November 30 in her 84th year. At the time of her passing, Mrs. Winkelmann was the mother of 10 living children—one daughter and 9 sons. Six of the sons are pharmacists operating their own drug stores: Ernest E., Clarence H., Daniel P., Chris A., Karl T., and Herman P. Winkelmann. The last is Executive Manager of the Retail Druggists Association of Greater St. Louis, and Chris is President of the Missouri Pharmaceutical Association.

Coming Events

March of Dimes—Jan. 2–31

Midwest Conf. of Pharm. Associations—Jan. 24–25, 1959, Hotel President, Kansas City, Mo.

American Heart Month—Feb. 1–28, Heart Sunday—Feb. 22

Parenteral Drug Association—Feb. 6, 1959, Statler Hotel, New York City

Boy Scout Week—Feb. 7–13

Pharmaceutical Mfrs. Assn., Central Regional Mtg.—Feb. 9–11, 1959, Edgewater Beach Hotel, Chicago

Lincoln's Birthday—Feb. 12

Valentine's Day—Feb. 14

Brotherhood Week—Feb. 15–22

Pharm. Mfrs. Assn., Western Regional Mtg.—Feb. 16–17, Ambassador Hotel, Los Angeles, Calif.

Universal Day of Prayer for Students—Feb. 19

George Washington's Birthday—Feb. 22

President's Day—Feb. 23

National Multiple Sclerosis Society—March 9, 1959, New York City

12th World Health Assembly—May, 12 1959, WHO Hdqrs., Palais des Nations, Geneva, Switzerland

American Society for Pharmacology and Experimental Therapeutics—April 13–17, Atlantic City

Parenteral Drug Association—April 17, 1959, Edgewater Beach Hotel, Chicago

Parenteral Drug Association—June 12, 1959, Sylvania Hotel, Philadelphia

Natl. Ind. Pharm. Conf.—June 14–17, Land O' Lakes, Wis.

APhA 1959 Conv.—Aug. 16–21, 1959, Cincinnati, Ohio

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SCIENCE FOR THE WORLD'S WELL-BEING

Prescription Practice

by Samuel W. Goldstein

℞ *Information Service*

Chlorcymophenol, Aluminum Acetotartrate

We have a German product Ceramphol that is a greaseless urethral jelly containing chlorcymophenol, alum. acetotartrate. Please tell us chemically what this compound is.—C.M.G., Arizona.

Chemically we are concerned with 2 substances and not 1 compound. We have been unable to locate a listing of the compound chlorcymophenol. It is possible that the manufacturer of the jelly has used his own system of nomenclature in naming this compound. If *p*-cymene or *p*-cymol were considered as the molecular nucleus, the addition of chlorine in position 6 and a phenolic hydroxyl group in position 3 would yield a compound that could be interpreted as chlorcymolphenol. If this were so, then chlorcymophenol (chlorcymolphenol) would be the same as chlorothymol which is used as a bactericidal agent. Please note, however, the "ifs" in this explanation. The "Extra Pharmacopoeia" (Martindale), states that chlorothymol is a potent bactericide but is intensely irritating to mucous membranes. The 23rd ed., Vol. 1, 1952, qualified the statement with the phrase ". . .except in very low concentrations. . ."; the 24th ed. does not.

With regard to aluminum acetotartrate, there is no listing of the compound as such. However, the "Extra Pharmacopoeia" (Martindale) 24th ed., Vol. 1, 1958, describes a Solution of Aluminum Acetotartrate which is prepared as follows: "Dissolve aluminum sulfate 30, in warm water 135, cool and add, with stirring, calcium carbonate 13, and then acetic acid (30%) 36; allow to stand 3 days with occasional shaking, filter off the solution and add to every 100 of filtrate tartaric acid 4.5. Contains about 10% of aluminum acetotartrate." Ths statement also is included: "According to the pharmacopeias of Czechoslovakia, Hungary, and Switzerland, this solution is supplied when Burow's solution is ordered." The solution of aluminum acetotartrate is not the same as Burow's solution, USP, although the therapeutic action of both preparations would be astringent.

Lederkyn

We have prescriptions for Lederkyn and Ledercyn. What are these drugs?—E. J., Washington, D.C.

Lederkyn is the British trade name for sulfamethoxypyridazine. Ledercyn is probably a modified spelling of the same name, possibly from a Scandinavian country. The drug sulfamethoxypyridazine is available in the U.S. as Kynex (Lederle).

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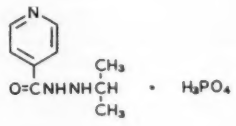
Prescription Practice

New and Nonofficial Drugs

Items Recently Evaluated by the American Medical Association Council on Drugs.

Iproniazid Phosphate

Marsilid Phosphate (Roche); 1-Isonicotinoyl - 2 - isopropylhydrazine phosphate.



Actions and Uses. Iproniazid is the isopropyl derivative of isoniazid and, like isoniazid, has tuberculostatic activity. It has been used for the chemotherapy of tuberculosis, particularly in infections of the bones and joints. Because of various side-effects, notably toxic psychoses and manifestations of central nervous system stimulation, the use of the drug as a tuberculostatic agent is now generally discouraged. At the present time, the main therapeutic interest in iproniazid stems from its ability to change (usually in the direction of improvement) the mood and behavior of patients with some types of mental depression.

Iproniazid may be characterized pharmacologically as a central nervous system stimulant of the psychomotor type, although its actions differ in a number of respects from those of the amphetamines. The drug is a potent and irreversible inhibitor of monoamine oxidase, an enzyme involved in the metabolism of epinephrine, levarterenol (norepinephrine), serotonin, and other physiologically active amines. Increases in the concentration of these amines can be demonstrated in the brains of experimental animals after administration of large doses of the drug. The clinical significance of these observations is uncertain, and, at present, the precise mechanism of action of iproniazid is unknown. The drug potentiates other centrally acting drugs, both depressants and stimulants, presumably by interfering with their metabolism in the liver. Although it has a slow onset of action, iproniazid is a cumulative drug with a prolonged effect. Its metabolic fate is not completely understood; however, the isonicotinic acid moiety of the administered drug is known to be excreted in the urine.

The principal therapeutic indication for iproniazid is in the treatment of psychotic patients with moderate to severe depressions. Even though all patients do not respond favorably, current evidence suggests that the drug may improve behavioral patterns without inducing artificial euphoria in some cases. Reported salutary effects include a feeling of well-being and increased vitality, decrease in psychomotor retardation, enhanced ability and/or desire to communicate, and, in some severely withdrawn patients, a return to useful functions. Schizophrenic patients, including those with catatonia, have been reported as not benefited by iproniazid; symptoms may, in fact, be intensified if the drug is administered during the acute phases of the disease. The drug has been of little value in depressed patients with organic brain syndrome. There is some evidence that younger patients seem to respond better than those in the older age group. In general, therapy with iproniazid is best reserved for those depressed patients who have not responded to milder central nervous system stimulants such as amphetamine or methylphenidate. Most authorities also advocate an adequate trial of electroshock therapy before initiating iponiazid medication. It should be borne in mind that, since the response to iproniazid is slow, therapy should be continued at least two months before being considered unsuccessful. Because of its toxicity, iproniazid should not be employed for the treatment of mild, psychoneurotic depressive states.

Increase in appetite and consequent weight gain have been observed in many psychiatric patients during therapy with iproniazid, presumably the result of improved mental status rather than an inherent property of the drug. Although these effects may be desirable in emaciated, debilitated, or chronically ill patients, there is no justification for the employment of iproniazid in underweight, but otherwise normal, patients solely as an aid to weight gain.

Iproniazid produces a wide variety of side-effects and untoward reactions, some of which are serious. The physician using this drug should carefully weigh the advantages to be gained against the risks involved. If the indications for therapy are not clear, the drug should not be given. Although iproniazid has been called a "psychic energizer," this term carries with it unsound and potentially dangerous psychological implications from the standpoint of self-medication. The definite incidence of untoward mental symptoms produced by the drug places it in a different category than caffeine or amphetamine. The wise physician will therefore refrain from indiscriminate prescription use of the drug.

Among the more frequent side-effects to iproniazid are unwanted psychological reactions, ranging in severity from minor inappropriateness in behavior, hyperactivity, and exaggerated dreams to personality changes which may be frankly psychotic. These effects seem to be reversible when the drug is withdrawn. The drug also produces a number of side-effects referable to autonomic disturbance. Among these (not necessarily in order of frequency) are postural hypotension, constipation, dryness of the mouth, diaphoresis, blurring of vision, urinary hesitation, impotence, and palpitation. Postural hypotension, in particular, may be sufficiently frequent and troublesome to require reduction of dosage or cessation of therapy. Administration of pressor amines is apparently of little value in overcoming this orthostatic type of hypotension. Neurological side-effects may also complicate therapy with iproniazid. These include hyperreflexia, clonus and tremors, paresthesias, peripheral neuropathy, vertigo, dizziness, syncope, and muscular weakness. Miscellaneous side-effects to the drug include peripheral edema (chiefly of the ankles and thighs), gastric upsets, anorexia, dyspnea, and abdominal pain. Mild hypochromic anemia sometimes occurs early in the course of therapy with iproniazid. Although this has been self-limiting, the physician using the drug should perform periodic peripheral blood cell counts, keeping in mind the possible subsequent appearance of more serious hematological effects.

The most serious toxic effect referable to therapy with iproniazid is the development of jaundice. The exact incidence of this complication is unknown although it is probably quite low. Nevertheless, the appearance of jaundice must be regarded as an ominous sign, since this may be followed by fulminating hepatitis which can be fatal. In fatal cases, the hepatitis has been sudden in onset with a rapidly downhill course. Postmortem examination of the liver in several of these patients has revealed pathological changes indistinguishable from acute viral hepatitis. It follows, therefore, that iproniazid is absolutely contraindicated in patients with either a history or the presence of jaundice, liver disease, or impaired hepatic function. Periodic liver-function tests are mandatory during therapy with this drug.

Iproniazid should not be given to patients who are overactive, overstimulated, or agitated. It is probably contraindi-

Continued on page 50

cated in epileptic patients. The drug should be used cautiously and in low doses in patients with impaired kidney function in order to prevent accumulation. Because iproniazid potentiates the action of certain other drugs, particularly alcohol, ether, barbiturates, meperidine, cocaine, procaine, and phenylephrine, it should be used with great caution whenever these drugs are employed. The relatively high incidence of postural hypotension, with the attending danger of fractures and lacerations from falls, makes the use of the drug particularly hazardous in geriatric patients.

Dosage. Iproniazid phosphate is administered orally. As with other potent drugs, dosage should be adjusted to the individual patient. Since the drug has a cumulative action, the lowest effective dose should be employed at all times. Symptoms attributable to withdrawal of iproniazid have been reported to occur within 48 hours after cessation of therapy which has been continued for several weeks. These symptoms include headache, exaggerated dreams, vertigo, nervousness, hyperreflexia, irritability, insomnia, and depression. For this reason, the drug should be withdrawn gradually unless other manifestations of toxicity demand sudden cessation of therapy.

The initial dose for nontuberculous conditions should not exceed 1 mg. per Kg. of body weight a day, given as a single dose. Dosage should then be reduced rapidly to lower maintenance levels of 0.2 to 0.5 mg. per Kg. of body weight daily or every other day until discontinuance of therapy becomes feasible.

Preparations: tablets 10, 25, and 50 mg.

Pancreatic Dornase

Dornavac (Merck S&D). A stabilized preparation of the enzyme, deoxyribonuclease, prepared by fractional precipitation of aqueous acid extracts of beef pancreas followed by dialysis, sterilization by filtration, and lyophilization. The activity of pancreatic dornase is determined by measuring the rate at which it reduces the viscosity of thymus deoxyribonucleic acid, potency being expressed in terms of units. One unit is the amount of enzyme which causes a drop of one viscosity unit in 10 minutes at 30°C., where the flow-time of water is taken as one viscosity unit.

Actions and Uses. Pancreatic dornase is derived from beef pancreas, and, in contrast to the deoxyribonucleases produced by hemolytic streptococci (streptodornase), it is a single nuclease. Like streptodornase, it acts directly upon a substrate of deoxyribonucleoprotein (and deoxyribonucleic acid). The action of pancreatic dornase has been characterized as one of rapid depolymerization, with a resulting decrease in viscosity of purulent material. Pancreatic dornase degrades deoxyribonucleoprotein to relatively large-sized fragments, thus differing from streptodornase, which continues this degradation through to free purine and pyrimidine compounds. Pancreatic dornase acts only on extracellular accumulations and disintegrating cells but not on living material. Enzymatic degradation is completed within the first few minutes of contact with the substrate.

Inhalation therapy with aerosols of pancreatic dornase has been employed to reduce the tenacity of pulmonary secretions and to facilitate the expectoration of sputum in certain bronchopulmonary infections in which thick mucopurulent secretions, particularly mucopurulent plugs, are present. On the basis of purely subjective observations, it is the clinical impression of most investigators that inhalation therapy with pancreatic dornase definitely benefits patients with purulent tracheobronchitis, bronchiectasis, abscesses, atelectasis, unresolved pneumonia, chronic bronchial asthma, and emphysema in which tenacious pulmonary secretions are a complicating factor. In a sizable percentage of such patients, clinical improvement is manifested by a change in the character of the sputum from a thick, gelatinous consistency to a thin, milky material which may be raised more easily. Part of the beneficial action of pancreatic dornase in the foregoing conditions has been ascribed to an ability of the enzyme to allow concomitantly administered antibiotics to reach the area of infection more readily. Thus far there is inadequate experimental evidence to support this view. The use of the drug as an adjunct in obtaining bronchial secretions and cellular debris for cytological study in patients with suspected bronchogenic carcinoma must be considered experimental.

The clinical toxicity of pancreatic dornase appears to be minimal, and aerosols of the drug are better tolerated than similar aerosols of crystalline trypsin. From experience to date, it would appear that allergic phenomena do not constitute a serious problem. Nevertheless, sensitivity to beef protein should be kept in mind; a few reported cases of dyspnea and generalized hypersensitivity reactions suggest that allergy can occur after prolonged use. More experience is needed to determine the ultimate sensitizing potential of pancreatic dornase.

Dosage. Pancreatic dornase is administered by inhalation. The freeze-dried powder of purified enzyme should be reconstituted with 2 cc. of sterile isotonic solution of sodium chloride immediately prior to use. Best results are reported when the drug is administered as an aerosol, either a direct nebulizer-oxygen tank arrangement or an intermittent positive-pressure breathing apparatus being used. When the latter method is employed, more complete ventilation of the lung and better distribution of the enzyme take place. It is questionable whether the use of ordinary hand atomizers or nebulizers is an effective method of treatment.

For the treatment of bronchopulmonary infections, the suggested dosage is 50,000 to 100,000 units 1 to 3 times daily for a period of 2 to 6 days, until improvement occurs and the maximal response is obtained. Treatment may be repeated after an interval of a few days or when clinical symptoms indicate a further need of therapy. For use as an adjunct in obtaining specimens of bronchial secretions and cellular debris for cytological study, the proposed dose is 100,000 units given as a single dose prior to bronchoscopy, or treatment may be continued over a period of days.

Preparation: power (inhalant) 100,000 units with 2 cc. of sterile diluent.

SUPPLEMENTAL STATEMENT

Intramuscular Use of Crystalline Trypsin in Pulmonary Diseases

The Council has evaluated the available evidence for the use of intramuscularly administered aqueous solutions or oil suspensions of crystalline trypsin (Parenzyme) as an adjunct to the treatment of severe bronchopulmonary diseases, which are characterized by tenacious secretions not susceptible to the action of expectorants. Included among such conditions are bronchial asthma, emphysema, and bronchiectasis. The enzyme is intended to reduce the viscosity and, hence, to facilitate the expectoration of thick, mucopurulent, pulmonary secretions, particularly inspissated mucopurulent plugs.

The available evidence for the intramuscular use of the drug for the foregoing types of pulmonary disease constituted a small number of case reports on patients in whom some improvement was observed on the basis of x-ray changes, increased vital capacity, lessened respiratory embarrassment, and ease with which the sputum was raised. Since the case histories were uncontrolled, the criteria used to demonstrate improvements may not be reliable. In a number of case histories the concomitant use of antibiotics complicated the evaluation of trypsin for bronchial pulmonary diseases. Hence, the Council concluded that its usefulness for pulmonary diseases has not as yet been fully established by the evidence so far available.

The usual doses for i.m. injection of crystalline trypsin vary from 2.5 to 5 mg. 1 to 4 times daily for a period of 3 to 8 days. Dosage must be individualized depending on the severity of symptoms and the degree of response. Adequate precautions against accidental intravenous injection should be exercised.

The Council voted to amend New and Nonofficial Drugs accordingly to describe the intramuscular use of crystalline trypsin in pulmonary disease.

Progress in Medicine

Acute Meprobamate Poisoning

Two cases of suicide in which about 12 Gm. and 20 Gm. of meprobamate, respectively, were ingested are reported by Dr. L. W. Powell, Jr., *et al.*, *New Engl. J. Med.*, **259,** 716(1958). A literature search turned up only 11 other attempted suicides in which meprobamate (10–40 Gm.) was used, and in all these cases the victims recovered from the effects of the drug; although 1 died 5 days later of pulmonary edema. Symptoms of poisoning varied from sleepiness through stupor and coma to complete respiratory and circulatory collapse. In most cases, coma, areflexia and lowered blood pressure occurred. The pulse became rapid in most cases but was slowed to 40/min in 1. One patient was cyanotic and another had slightly cyanotic lips. Four had pinpoint and 2 had dilated, fixed pupils. Treatment depended on the symptoms. Gastric lavage in some cases recovered much of the ingested drug, respiration was aided, central stimulants were used. The hypotension often seen in meprobamate poisoning has been treated with intravenous infusion fluids and vasopressors such as phenylephrine and levarterenol bitartrate. Oxygen was used to prevent cerebral anoxia.

Amanozine—Triazine Diuretic

A report on clinical trials of amanozine (W-1191-2; 2-amino-4-anilino-1,3,5-triazine HCl) by Drs. D. V. Miller and R. V. Ford, *Am. J. Med. Sci.*, **236,** 32(1958), indicates it to be a potent "water diuretic" which causes only a slight increase in sodium excretion. Following chronic oral administration of 150–300 mg. per 24 hrs. for 2–3 weeks, amanozine was associated with clinical and laboratory evidence of significant but reversible depression of renal hemodynamics along with nitrogen and phosphate retention similar to that noted when the analogue chlorazanil (Daquin) was used. Both drugs appear to have similar mechanisms of action. It is concluded that the use of amanozine in clinical medicine demands caution although it might be useful as a short-term oral diuretic or when given in an interrupted schedule.

Bacterial Contamination from Benzalkonium Chloride Solution

A report on 40 instances of bacteremia in hospitalized patients infected with *Pseudomonas sp.*, following the use of materials (gauze, absorbent cotton squares, polyethylene catheters for i.v. use) stored in accidentally contaminated solutions of benzalkonium chloride 0.1% is given by Drs. S. A. Plotkin and R. Austrian, *Am. J. Med. Sci.*, **235,** 621(1958). The antibacterial action of the surfactant detergent was decreased by the presence of gauze and cotton pledgets, the solution was inadvertently contaminated, organisms were transferred to patients by wiping the skin with a contaminated sponge, and were carried into the vein by introduction of the hypodermic needle through the skin. The physicians state: "It is clear from this and other investigations that detergent solutions should not be allowed to contain large amounts of complex carbohydrates or proteins when they are to be used as antibacterial agents."

Calcium–Digitalis Tolerance Test

A study on the application of the quantitative clinical technique known as the calcium-digitalis tolerance test, whereby the existing level of digitalization present in a patient may be determined, is reported by Dr. G. C. Timmis, *et al.*, *J. Am. Med. Sci.*, **236,** 139(1958). They note that the Ca-digitalis tolerance test is intended for use in the uncommon clinical problems of digitalization. It has been used to differentiate whether arrhythmias in cardiac failure were due to inadequate digitalization or to intoxication. The test may be used to digitalize a patient, if necessary, to maximum safe levels just short of digitalis intoxication. The induced transient hypercalcemia caused by the test is rapidly corrected to normal levels by a rapid serum calcium clearance rate or, if the EKG end point persists or becomes emergent, by i.v. injection of Na_2EDTA (Edathamil; Versene). The serum calcium clearance rate varies inversely with age and, therefore, the physicians find the test is possibly most ideally suited for use in the pediatric age groups; even though they have had 24 successful trials in 15 adult patients in congestive heart failure.

Dimethazan as Stimulant and Sedative

When administered to 66 geriatric patients dimethazan, 1,3-dimethyl-7-(2′-dimethylaminoethyl) xanthine, 300 mg. i.v. in 3 min., caused transitory respiratory and cerebral stimulation in a majority of cases. Oral administration of 100–400 mg. 3–4 times daily, to 87 ambulatory and 46 hospitalized patients with mental and physical depression, indicated a duo effect of central nervous system stimulation and sedation. The reporting physicians, R. C. Batterman, *et al.*, *Am. J. Med. Sci.*, **236,** 162(1958), note: "This unusual combination of effect with a single chemical preparation offers a unique control of patients with mild symptoms of depression or anxiety state." They conclude also that dimethazan is a safe drug without the shortcomings of available caffeine preparations.

Ethotoin and Lymphadenopathy

A case in which a reaction to ethotoin resembled the clinical and pathological symptoms of malignant lymphoma is described by Dr. S. L. Saltzstein, *et al.*, *J. Am. Med. Assoc.*, **167,** 1618(1958). The physicians state: "If this condition is not recognized as a drug reaction rather than a neoplasm, such therapy as nitrogen mustard or irradiation may be instituted and the patient or his family may be told that he has an incurable disease." They note that therapy with ethotoin (Peganone), as with other hydantoin and hydantoin-like drugs, can lead to striking enlargement of lymph nodes, hepatosplenomegaly, fever, and eosinophilia. Withdrawal of the drug results in remission of the adenopathy, fever, and eosinophilia.

Fibrinolysin (Plasmin) in Thrombosis

The possibility of dissolving a recent thrombus by i.v. injection of a fibrinolytic enzyme was studied in 37 patients, most of whom had incurable cancer, by Dr. J. E. Sokal, *et al.*, *J. Am. Med. Assoc.*, **168,** 1314(1958). In 10 of the patients with thrombic disorders, rapid resolution of signs and symptoms were observed when treatment was started within a few days of the apparent clinical onset of thrombosis. Fibrinolysin therapy was ineffective when started 1 week or more after the first manifestations of thrombosis. Many of the fibrinolysin preparations tested were unsatisfactory because of low potency or high incidence of side-reactions or because they were strongly antigenic and carried the hazard of inducing sensitization to streptococcic products. The investigators believe that several preparations warrant further clinical trial in acute peripheral thrombosis and in in coronary and cerebral thrombosis.

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They believe that fibrinolysin therapy should be supplemented by anticoagulant therapy to prevent recurrent thrombosis. It is emphasized that this approach to the therapy of acute thrombosis is still experimental.

Fibrinolysin as Thrombolytic Agent

Fifty-two patients with various forms of thromboembolic disease were treated by intravenous infusions of fibrinolysin (plasmin) in dosages up to 90,000 FU. Enhanced plasma fibrinolytic activity was noted at some time after infusion in 92% of the cases given 40,000–50,000 FU reports Dr. K. M. Moser, *J. Am. Med. Assoc.*, **167,** 1695(1958). The product used is a purified derivative of human plasma protein fraction 3 activated to fibrinolysin with streptokinase (excess removed), and the active material (Actase-Endo) in lyophilized form is stable for several months at −4°C. One fibrinolytic unit (FU) is that amount of a standard preparation which will change the turbidity of a standard fibrino-thrombin clot by 50% in 10 minutes. In the 10 case histories given to illustrate symptomatic relief, and in the others, hemorrhagic complications did not occur and disturbances of the blood-coagulating factors were minimal. Fever followed infusion in 25 patients, and delayed allergic skin reactions occurred in 2. Dr. Moser feels the results justify a cautious optimism that fibrinolysin may prove a safe and effective agent for achieving acute lysis of intravascular clot.

A preliminary report on the use of fibrinolysin (Actase) in 3 cases of cerebral arterial occlusion by Drs. B. J. Sussman and T. S. P. Fitch, *ibid.*, **167,** 170(1958), indicates that its prompt administration in cases of cerebral thrombosis or embolism may prove beneficial.

Magnesium Sulfate-Glycerin-Saline Mixture for Tapeworm

Forty patients with tapeworm were successfully treated by transduodenal intubation and passage of glycerin, magnesium sulfate, and saline solution warmed to 130°F. through the tube, report Drs. S. W. Rosen and E. D. Kiefer, *J. Am. Med. Assoc.*, **167,** 2065 (1958). The physicians state that 36 of the 40 patients were cured, and only 2 could not tolerate intubation. The advantage stressed is the use of nontoxic materials. The procedure used is as follows: (1) Pass a Rehfuss tube into the stomach; (2) Turn the patient on his right side and allow the tube to pass into the duodenum; (3) Check the tube by fluoroscope to be certain that the tip is well down in the second or third portion of the duodenum, beyond the ampulla of Vater; (4) When certain the tube is in position introduce 1.5 oz. of magnesium sulfate solution through the tube; (5) Then introduce immediately 1.5 oz. of glycerin; (6) Then introduce immediately 2 oz. of a mixture of equal parts of magnesium sulfate and glycerin; (7) Then introduce immediately 500 cc. of the sterile saline solution which has been warmed to a temperature of 54–60°C. or 130–140°F. A bucket and a bedpan should be ready in the patient's room. The bucket should contain warm water or saline solution so that if the worm is obtained it can be preserved and identified.

No untoward reaction other than a flushing sensation has been noted. Two patients had mild tachycardia. In the great majority of cases the entire worm, with scolex attached, was expelled within 10 to 15 minutes after the treatment had been completed.

Mercaptopurine and Steroids in Acute Leukemia

Therapy of acute leukemia in 46 children and 29 adults is reported by Dr. J. Louis, *et al.*, *J. Am. Med. Assoc.*, **167,** 1913 (1958). Fifty-five of these patients received steroids (cortisone or prednisone) with 6-mercaptopurine; 9 received only 6-mercaptopurine; 5 received only steroids; and 6 received other forms of treatment. The remission rate for all the children treated was 77%; some went on to a second remission, and one went to a third. The rate of remissions for adults was only 17%, and there were no second remissions in any of the adult patients. The duration of remission appeared to be longest in those patients who received a combination of 6-mercaptopurine and steroids, but the limited size of the other groups made comparison difficult. The steroid treatment caused a noticeable weight gain and some other undesired effects but no electrolyte imbalance, hypertension, or peptic ulcer. The undesired effect of 6-mercaptopurine was occasional, sudden, excessive leukopenia. The 50% survival time in the group who received 6-mercaptopurine was 9 months, and the 10% survival time was 19 months. The physicians conclude that the question of the validity of sequential antileukemic therapy versus combined steroid-antimetabolic therapy is not entirely settled and warrants further investigation.

Meprobamate Addiction

A case of meprobamate addiction is reported by R. C. Mohr and Dr. B. T. Mead, *New Engl. J. Med.*, **259,** 865 (1958). It is noted that meprobamate is relatively nontoxic but, due mainly to its extensive use, toxic reactions have been reported and these include mild to severe skin reactions and psychic reactions. Addiction is infrequently reported but is a possibility. The drug should be prescribed with extra caution to any patient with a history of alcoholism or other addiction. When meprobamate addiction is suspected, gradual and controlled withdrawal from the medication is recommended as probably the treatment of choice.

Salicylamide and Aspirin as Antipyretics in Infants

Observations on the effect of aspirin and salicylamide (Liquiprin) in 512 pediatric patients whose only symptom was temperature over 101°F. indicated that both drugs controlled pyrexia. The study by Drs. A. J. Vignec and M. Gasparik, *J. Am. Med. Assoc.*, **167,** 1821 (1958), showed that both drugs were equally effective with the same number of doses. The physicians preferred the suspension dosage form.

Sulfamethoxypyridazine in Dermatitis Herpetiformis

Treatment of 12 cases of dermatitis herpetiformis with oral tablets of sulfamethoxypyridazine (Lederkyn) gave encouraging results, reports Dr. J. Jefferson, *Brit. Med. J.*, **5090,** 209 (July 26, 1958). All cases treated had an immediate response. In 2 cases, treatment was interrupted and the symptoms and rash promptly recurred, and rapidly disappeared when therapy was resumed. Local treatment consisted of applications of diluted lead subacetate solution and calamine cream (B.N.F.). Side reactions (rubella in 1 patient; temporary dizziness and headache in 1 patient) were practically absent and did not interfere with oral therapy.

Sulfamethoxypyridazine—Long-acting Sulfonamide

A study of dosage schedules with sulfamethoxypyridazine (Kynex) is reported by U. K. Sheth, *et al.*, *Antibiotic Med. & Clin. Therapy*, **5**, 604(1958). Ten subjects received 2 Gm. of the drug initially and 1 Gm. daily as a single oral dose for the subsequent 5 days. Another 10 subjects were given half the dosage. Adequate plasma levels of 11 mg./100 ml. of the free sulfonamide were maintained with the lower dosage. No side-effects were observed. In severe infections, the higher dose schedule is recommended.

New Prescription Products

Cyclamycin Capsules
Cyclamycin Oral Suspension

Description: Each capsule contains 125 mg. or 250 mg. and each 5 cc. of suspension contains 125 mg. of Cyclamycin (triacetyloleandomycin).

Indications: For control of common infections, including those due to erythromycin-resistant staphylococci.

Administration: Orally, 250–500 mg. 4 times daily.

Form Supplied: Capsules, both strengths in vials of 36; Suspension, 2-oz bottles.

Source: Wyeth Laboratories, Philadelphia 1, Pa.

Decadron Tablets

Description: Each scored pentagon-shaped tablet contains 0.5 mg. or 0.75 mg. Decadron (dexamethasone), a synthetic adrenocortical steroid.

Indications: Rheumatoid arthritis, asthma, and other allergic and inflammatory conditions. Therapeutic dosage does not usually increase the insulin requirement in patients with diabetes mellitus.

Administration: Orally, individualized by physician. Stated to have potency, mg. for mg., 4–6 times greater than 6-methylprednisolone or triamcinolone, 6–8 times greater than prednisone or prednisolone, 25–30 times greater than hydrocortisone, and 35 times greater than cortisone, with no proportionately equivalent increase in side effects.

Form Supplied: Both strengths in bottles of 100 and 1,000 tablets.

Source: Merck Sharp & Dohme, Philadelphia 1, Pa.

Halodrin Tablets

Description: Each pink, scored tablet contains fluoxymesterone (Halotestin) 1 mg. and ethinyl estradiol 0.02 mg.

Indications: For relief of symptoms of the menopause, male climacteric, and osteoporosis.

Administration: Menopause or male climacteric, 1 tablet twice daily, adjusted individually for maintenance. Osteoporosis, 1–2 tablets 3–4 times daily. Elderly persons should be observed for any tendency to steroid-induced edema. Contraindicated in prostatic carcinoma, and in breast, uterine, cervical, and ovarian carcinoma.

Form Supplied: Bottles of 100 tablets.

Source: The Upjohn Company, Kalamazoo, Mich.

Ilosone Pulvules

Description: Each red and ivory Pulvule contains erythromycin propionate (Ilosone) equivalent to 125 mg. or 250 mg. erythromycin base.

Indications: For quicker, higher, and more prolonged antibacterial blood levels in conditions susceptible to erythromycin.

Administration: Orally on an empty stomach, a 250-mg. Pulvule every 6 hrs., 500 mg. or more for severe or deep-seated infections; children, 20 mg./lb. of body weight per day in divided doses, 30–40 mg./lb. in serious infections.

Form Supplied: Bottles of 24 and 100 Pulvules.

Source: Eli Lilly and Co., Indianapolis 6, Ind.

Lipomul I.V. Emulsion

Description: Each 100 cc. of emulsion contains: cottonseed oil, 15 Gm.; dextrose (anhyd.), 4 Gm.; lecithin, 1.2 Gm.; and oxyethyleneoxypropylene polymer, 0.3 Gm.

Indications: For patients unable to take adequate food by mouth for any considerable time.

Administration: By i.v. route only, not more than 2 units of 500 cc. daily, total not to exceed 14 infusions; infants and children, maximum daily dose ranges up to 10 cc./lb. of body weight. Adult infusion rate: 1st 5 min., 10 drops (0.5 cc.)/min.; next 25 min., 40 drops/min.; next 30 min., 100 drops/min. Infant and children: 1st 5 min., 5–10 drops/min.; next 55 min., 0.5–1.0 drop/lb./min. Do not mix with blood or any other infusion fluid or drug, or give simultaneously through the same tubing.

Form Supplied: In 600-cc. bottle containing 500 cc. of 15% fat emulsion.

Source: The Upjohn Company, Kalamazoo, Mich.

Orabilex Capsules

Description: Each capsule contains 0.75 Gm. 3(3-butyrylamino-2,4,6-triiodophenyl)-2-ethyl sodium acrylate (Orabilex).

Indications: For roentgenographic visualization of gallbladder and biliary ducts.

Administration: Orally, 6 capsules taken 12–14 hrs. before the examination.

Form Supplied: Envelopes of 6 capsules in boxes of 5, 25, and 100 envelopes; and in hospital-size bottles of 250 capsules.

Source: E. Fougera & Co., Inc., Hicksville, L.I., N.Y.

Trancopal Caplets

Description: Each scored Caplet contains 100 mg. Trancopal (chlormethazanone), chemically 2 - (4 - chlorophenyl) - 3-methyl - 4 - metathiazanone-1-dioxide.

Indications: Muscle relaxant and tranquilizer for use in skeletal muscle spasm and in psychogenic disorders including anxiety and tension states, dysmenorrhea, premenstrual tension, asthma, and angina pectoris.

Administration: Orally, 100 mg. 3–4 times daily; children 5–12 yrs., half the dosage.

Form Supplied: Bottles of 100 and 1,000.

Source: Winthrop Laboratories, New York 18, N.Y.

Other New Products

Chemicals, clinical trial drugs, diagnostic aids, equipment for the retail and hospital pharmacy

Dilaudid Syrup

A peach-flavored syrup containing, in each 5 cc.: Dilaudid (dihydromorphinone) HCl, 1 mg., and glyceryl guaiacolate, 100 mg., is marketed by *Knoll Pharm. Co.* for relief of coughs. Dosage, 1 teaspoonful (5 cc.) every 3–4 hrs. The Class A narcotic preparation is supplied in pint bottles.

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All actively promoted items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information before products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Editor, New Prescription Products Department; JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N.W., Washington 7, D.C.

Hormozyme Tablets

Yellow coated tablets containing, in each: fluoxymesterone (Halotestin), 0.67 mg.; ethinyl estradiol, 0.015 mg.; vitamin A, 2,500 u.; D, 250 u.; B_1, 1.25 mg.; B_2, 1.25 mg.; B_6, 0.25 mg.; B_{12}, 1 mcg.; C, 25 mg.; nicotinamide, 10 mg.; calcium pantothenate, 2.5 mg.; folic acid, 0.125 mg.; and dibasic calcium phosphate, 100 mg., are marketed by the *Upjohn Co.* for use in menopausal symptoms, male climacteric, general debilitation, and osteoporosis. Dosage, 1 tablet 2–3 times daily. Precautions and contraindications are the same as for Halodrin and other androgen-estrogen combinations. Supplied in bottles of 100 tablets.

Hydrocin Injection

An injection containing, in each cc.: hydrocortisone acetate, 50 mg., and neomycin sulfate, 5 mg., is marketed by *Philadelphia Ampoule Labs.* for use by local injection into joint spaces and bursal sacs in controlling rheumatoid and osteoarthritis and post-traumatic bursitis. Dosage, initial for knee is 0.5 cc., repeated when symptoms return; for smaller joints, 0.2–0.3 cc. Supplied in 5-cc. multiple-dose vials in boxes of 25 and 100.

Isoclor Tablets

Tablets containing, in each: chlorpheniramine maleate, 4 mg., and *d*-isoephedrine HCl, 25 mg., are marketed by *Charles C. Haskell* for oral use as a nasal decongestant. Dosage is 1 tablet 3–4 times daily. Supplied in bottles of 100 and 1,000.

Medrol Tablets—New Packages

The *Upjohn Company* has made available its 2-mg. tablets of Medrol (6-methyl-delta-1-hydrocortisone) in bottles of 100, and its 4-mg. tablets in bottles of 500.

Mycostatin Cream

E. R. Squibb & Sons has marketed a cream containing, in each Gm., 100,000 u. nystatin (Mycostatin) in a vanishing cream base. It is indicated for treatment of fungus infections of the skin caused by *Candida albicans* (monilia). Applied to affected areas 1–3 times daily until healing is complete.

Pathilon Pediatric Drops

The anticholinergic Pathilon chloride (tridihexethyl chloride) has been marketed by *Lederle Labs.* in a liquid preparation containing, in each cc.: 5 mg. of the drug with 0.2 mg. propylparaben and 0.8 mg. methylparaben; for pediatric use in infant colic, gastrointestinal spasm, nonspecific gastritis and enteritis and hypermotility not associated with organic change. Dosage, 5–25 drops orally before feedings. Supplied in 15-cc. plastic dropper bottles.

Peptolin Elixir

An elixir containing, in each 45 cc., 2 mg. pipradrol HCl in addition to a vitamin-mineral combination with 30 mg. hesperidin methyl chalcone and a 16.18%-alcohol sherry base, is marketed by *Walker Labs.* for use as an antidepressant and nutritional supplement in relief of chronic fatigue. Contraindicated in agitated prepsychotic patients, paranoia, or in other cases where hyperexcitability, anxiety, chorea, or obsessive-compulsive states are present. Dosage, 1 tablespoonful (15 cc.) 3 times daily before meals. Supplied in pints and gallons.

Phenistix Reagent Strips

A diagnostic test for phenylketonuria uses impregnated reagent strips (Phenistix) marketed by *Ames Co.* The strip is dipped in urine or pressed against a wet diaper until thoroughly moistened and after 30 seconds any color is compared with the color scale on the bottle. Supplied in bottles of 50 strips.

Plasmanate Solution I.V.

Cutter Laboratories has marketed Plasmanate, plasma protein fraction 5% (Human) heat treated, a 5% solution of a fraction of human plasma proteins for use in the treatment of shock. The product is heat treated to remove the danger of serum hepatitis virus. It is stated that the yield of Plasmanate in shock units from the starting raw material, human whole blood, is about halfway between human serum albumin and plasma. Supplied to physicians and hospitals in a kit with disposable infusion set with needle, and air inletting needle.

Pro-Duosterone Tablets

Pink tablets containing, in each: 50 mg. ethisterone (anhydrohydroxyprogesterone) with 0.03 mg. ethinyl estradiol (as activator), are marketed by *Roussel Corp.* for use in a test for pregnancy. One tablet orally with each of 3 daily meals and 1 at bedtime for 3 consecutive days will induce uterine bleeding 2–4 days later if the woman is *not* pregnant. No bleeding occurs if pregnancy exists. Prescription is required.

Protef Suppositories

Rectal suppositories containing, in each, Cortef (hydrocortisone) acetate, 15 mg., and neomycin sulfate, 15 mg., are marketed by *Upjohn Co.* for use in anal fissure, postoperative edema, radiation proctitis, cryptitis, papillitis, nonspecific localized proctitis, anusitis, mechanical trauma, postoperative treatment of fistulectomy, and hemorrhoidectomy. Dosage, insert 1 suppository, moistened with water, 2–4 times daily. Do not continue for more than 4–7 days. Use with caution in patients already on corticosteroid therapy orally or parenterally, as 20–40% of rectally administered hydrocortisone may be absorbed. Supplied in packages of 12.

Sultussin Tablets

Pink, raspberry flavored tablets containing, in each: pyrilamine maleate, 3.125 mg.; phenyltoloxamine dihydrogen citrate, 3.125 mg.; glyceryl guaiacolate, 25 mg.; ephedrine sulfate, 2.5 mg.; and 83 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine, are marketed by *Tilden Co.* for relief of symptoms of upper respiratory tract disorders and for prevention or control of infectious complications. Dosage, 4 tablets every 4 hrs.; children, half dosage. Supplied in bottles of 100. The suspension also is available.

Taomid Tablets
Taomid for Oral Suspension

Scored tablets containing, in each: triacetyloleandomycin equal to 75 mg. oleandomycin, and 111 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine; and a powder which mixes with 60 cc. water to form a red, strawberry-flavored suspension, containing in each teaspoonful: the equivalent of 125 mg. oleandomycin and 167 mg. each of the 3 sulfas, are marketed by *J. B. Roerig & Co.* for use in the control of common and mixed genitourinary tract infections and upper respiratory diseases. Dosage: tablets, 2–3 orally 4 times daily or 2 every 4 hrs.; suspension, 1–2 teaspoonfuls 4 times daily; children, half the dosage. Supplied in bottles of 60 tablets, and 60-cc. amber bottles containing powder for suspension.

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Physicians prescribe Mazon and Mazon Soap for the relief of externally caused:

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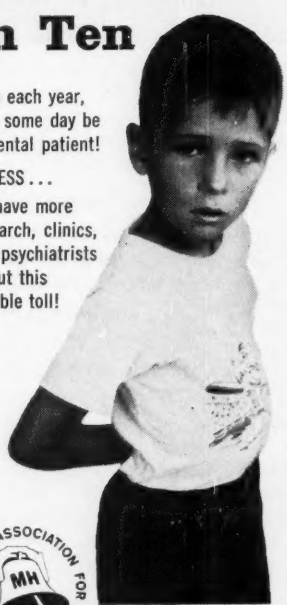
One Child in Ten

born each year, may some day be a mental patient!

UNLESS . . .

we have more research, clinics, and psychiatrists to cut this terrible toll!



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